What Makes Different Types of Advertising Effective?

Katherine E. Green

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Doctor of Philosophy (PhD)

University of Newcastle upon Tyne

Department of Psychology

The Henry Wellcome Building for Neuroecology, Framlington Place,

Newcastle upon Tyne NE2 4HH, UK

Supervisors

Dr. Martin Tovée

Dr. George Erdos

Sponsor

Lever Fabergé UK

Abstract

Experimental procedures were designed to investigate the effectiveness of different types of Fast Moving Consumer Goods (FMCG) print advertising. Following a series of pilot studies in which the methodology was tested, sets of adverts provided by the sponsor were assessed in 3 separate conditions, each with a different group of 50 subjects. Participants were female, aged between 25 and 50, and mainly responsible for their household shopping, representing the 'housewife' demographic Lever Fabergé targets with FMCG advertising.

In condition 1 the subjects were exposed to a set of 32 Poster adverts, in condition 2, 32 Magazine adverts and in condition 3, 14 Direct Marketing (DM) adverts. A combination of eye-tracking and questionnaire methods were used. Three sets of questionnaires aimed to assess purchase behaviour, measure consumer attitudes towards the adverts and capture the brand associations that were being formed. Fixations for each advert from the intermediate eye-tracking session were analysed across each group of participants, in terms of attention in specific areas of interest (AOIs) defined earlier. These represented the major advertising components e.g. brand name, pack shot, slogan. AOI fixations were evaluated in terms of the overall % of fixations, overall % of fixation time, % of initial fixations (within 1000 msec) and average fixation duration.

Results showed specific types of advert elicited the most positive attitudes, having some influence on how the brand was perceived. These adverts were generally simple with a straightforward message, and best liked with high impact. Brand recall was not always negatively affected by negative ad attitudes. Attention patterns across adverts with fewer AOIs were easier to predict, and there appeared to be optimum positions for specific AOIs to increase the proportion of first fixations. The non-uniform stimuli meant overall eye-movement observations could be presented but strict predictive models could not be applied.

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Glossary of Terms

Ad – abbreviation of 'advertisement' or 'advert', commonly used in the advertising industry

AOI – Area of Interest, a specific area within an advert defined by the type of information in/content of that area

Attention – mental concentration/focus on some aspect of the environment, selective awareness

Brand – a distinctive identity for a certain make of product or service (*e.g.* brand name, brand logo)

Brand Involvement – level of engagement (emotional and rational) with a particular brand

Cognitive – pertaining to the mental processes of knowing, perceiving, reasoning *etc.*

DM – Direct Marketing, a form of marketing where advertising is targeted at specific consumers, often via advertising delivered to them at their home address

Editorial – an article usually forming part of a newspaper or magazine and largely consisting of text

Affective – influence via feelings/emotions

Fixation – a cluster of eye-movements on one area of a scene, can be distinguished from saccades

FMCG – Fast Moving Consumer Goods, products that are relatively low involvement and might be purchased on regular supermarket shopping trips

Informational – influence based on clear, factual details

Magazine advertising – advertising contained within a magazine publication, usually of A4 size but can be a single or double page spread

Pack shot – area of an advert where an image of the product/packaging is shown

Pictorial – area of an advert where the primary visual information is shown, usually an illustration, photograph or other image (as opposed to text)

Poster advertising – a type of outdoor advertising where adverts are usually featured in a large format on the street/by the side of the road, aiming to attract the attention of passing consumers

Product – item being advertised that comes under the brand name

Product Involvement – level of engagement (emotional and rational) with a particular product or product group

Recall – to recollect something from memory (recall may be aided or unaided)

Recognition – to identify/acknowledge something after a memory has been formed

Saccade – an eye-movement made between fixation points

Slogan – area of an advert where the main advertising message is outlined, often through the use of a catchy phrase

Text – area of an advert containing information in the form of words (textual as opposed to pictorial)

Transformational – influence via emotions, often by projecting an appealing experience

Preface

Advertising messages penetrate our lives daily in innumerable forms. We may have some knowledge about this communication process, but the true cognitive impact of advertising remains somewhat of a mystery to researchers and advertisers alike. 'Advertising effectiveness' is a phrase commonly used to describe the success rate of an advert or advertising campaign, but there is uncertainty surrounding the meaning of 'effective' in this context. There are many levels on which an advert could be said to be effective and often advertising studies are not assessing the same thing. In a commercial context, an effective advert is one that increases sales of the brand, but what we really want to know is how such an effect is brought about.

Research in this field began with its roots in marketing and a great deal of the focus has been on using memory measures to assess effectiveness, which has been criticised by more recent theorists as inefficient and lacking in a real consideration for the way adverts are processed by consumers. Research has progressed by exploring the cognitive processes which occur in between exposure to an advert and choice of that brand, rather than merely testing rational memory of the information.

Advertising theory is now being combined with the scientific investigation of attitudes towards advertising, attitudes towards the brands and the effects of different media channels. It no longer seems appropriate to try to explain how advertising is effective generally, as specific types of advert with distinct target

audiences can be evaluated in their own right, taking into account the specific communication objectives of each individual campaign.

This thesis aims to deal with the methodology of past studies and assess their success in identifying advertising effectiveness, to define its meaning and to develop a set of measures based on questionnaires and an eye-tracking approach. The thesis will explore the relationships between advertisement characteristics, consumer attitudes towards the adverts, and what impressions of the brand consumers will take away with them. It will also consider the consequences of this information for advertising practice in a commercial environment.

Chapter 1

Introduction

1.1 Background to the Subject

Advertising is becoming an inescapable phenomenon appearing in more and more places. It is almost impossible to ignore or be unaffected by its presence. Internet advertising is one example of a fast-growing 'new medium' being used to reach the consumer on yet another level. In 2000, there was a year on year increase in internet advertising expenditure of 203%, mirroring the gradual increase in the number of UK adults using the World Wide Web (TheAdvertisingAssociation)[1]. Advertising comes through our doors, through our TVs, is in what we read and can be seen everywhere day to day.

The marketing and advertising industry, in the UK and worldwide, spends millions of pounds on campaigns with the ultimate goals of increased sales and awareness of the featured product or brand. For example, Reuters (2004) reports that Unilever outputs an estimated €1 billion euros annually on European media buying and planning. The ultimate aim of advertisers is to get the most effective advertising possible from their outlay as they can.

Campaigns that fall short of producing sales targets will still have cost thousands to produce, and therefore a high percentage of advertising spend can be 'wasted'. This explains the increasing investment in advertising research, to find out how to predict whether an advert will be successful. Pre-testing has been carried out on adverts for years, but this often only leads to minor adjustments being made, and the adverts are still used even though their effectiveness is unclear. Pre-testing focuses on increasing the chance advertising will work by dealing only with the creative content of the executions,

[1] See Appendix 1 for complete data tables.

largely relying on focus groups and recall methods, which do not necessarily relate to how consumers will be exposed to the advertising in the real world [Percy & Rossiter (1997)]. Research needs to be more focused on how adverts affect consumers on exposure before they go on to subsequently influence their purchase decisions.

Advertising effectiveness has often been investigated within marketing or economic contexts, but it is increasingly thought that there should be some statistical, scientific foundation to advertising strategy, evaluation and media planning [Jones (1998)].

1.2 Aims of the Thesis

The massive annual spend on advertising highlights its importance in the business of brands. The amount of research being commissioned by large companies underlines the importance of getting advertising right and reducing this spend, thereby making the whole process more efficient. This research project is being sponsored by Lever Fabergé, one of Unilever's core companies (along with Birdseye Walls and Unilever Bestfoods). As part of this project an extensive review of existing advertising research literature has been carried out, experiments designed and implemented and the relevant findings presented to Lever Fabergé.

This thesis aims to:

- Explore previous research into advertising effectiveness and evaluate the methodology used and its success

- Define advertising effectiveness in terms of achieving specific advertising goals

- Design measures that will be able to determine what aspects of an advert influence its effectiveness and can therefore be used to predict what types of advert will work best and in what media context

- Observe behavioural responses to advertising

- Determine if attitudes towards adverts affect attitudes towards the brand and relate to consumer patterns of attention

The study will be based around types of print advertising for Fast Moving Consumer Goods (FMCGs). 'Print' advertising is commonly used to describe magazine and newspaper advertising. Here the term is used to describe printed formats, as opposed to TV advertising. Examples of FMCG products are toiletries, laundry products and household goods, in other words, products purchased regularly which make up part of the weekly supermarket shop. These are the staple products of large international companies such as Unilever and Proctor & Gamble, and have a specific target audience (a specific consumer group the advertiser wishes to communicate with). Subjects used will be those within the Unilever target audience for FMCG products *i.e.* females mainly (or at least partly) responsible for their household's grocery shopping, aged 25-50. This consumer group is referred to as 'housewives'.

Research shows that although half of main grocery shoppers know what they want and 45% use a shopping list, one fifth have no preconscious views on what they will purchase, frequently buy on impulse, and are therefore particularly susceptible to suggestion [Mintel (2003)]. This exposes the proportion of consumers advertising could potentially influence.

Although the category of advertising focused on within this thesis is fairly contained, the study of human behaviour is fundamentally complicated, which explains why there are so many methods of research and so many diverse subsets of advertising research topics. In "Effective Advertising", Tellis (2004) pinpoints some of the reasons why measuring advertising effects is so difficult. A major factor is that consumers' purchase decisions can be influenced by a number of things, for example their past experience of a product, or a particular promotion that is running at the time. Even if advertising is one of a number of things that can have an effect, a campaign may involve a variety of media types which may all have a different impact on the consumer's behaviour. Advertising can have instantaneous plus residual carryover effects, and ad effectiveness can suffer 'wearout' after a certain number of exposures (the advert has less impact and its influence is lessened over time). Also, preceding and following adverts for the product can have overlapping effects, and different groups of consumers can react diversely to the same advertising (if their loyalty to the product varies, for example). For this reason, the aim of this study is to evaluate the impact of adverts in their own right, with in-depth, detailed measures, both physical and cognitive.

As there is divergence in defining advertising effectiveness, there are also differences in the approaches that have been applied to the topic. Here experimental research methods based on a review of previously used techniques will be employed. Questionnaire measures will be used to assess consumer attitudes to the advertising and brands and an additional technique will also be introduced: Eye-tracking, a relatively new research tool being used within advertising effectiveness experiments, can offer insights into actual consumer behaviour on exposure to advertising.

1.3 Exploring Advertising Effectiveness

1.3.1 Advertising Aims - The Development of Models

It may not be possible to define advertising goals in a broad context, although over the years advertising theory has yielded many models which attempt to do just this, explaining the various phases of advertising effects. Early advertising models are based on a hierarchical structure, supposing that consumers pass through various stages in order to reach the final point at which purchase behaviour occurs. These models indicate that advertising effects happen one by one, and each triggers the next stage, rather than taking into account that there may be many routes, some indirect, to the end goal of brand purchase. Examples of these are the attract attention-maintain interest-create desire-get action (or AIDA: Awareness-Interest-Desire-Action) model [St. Elmo Lewis, 1898 cited in Franzen (1999)] and the Awareness-Comprehension-Conviction-Action (ACCA) model, part of the DAGMAR framework (Defining Advertising Goals for Measured Advertising Results) Colley (1961) (FIG. 1 & FIG. 2, below).

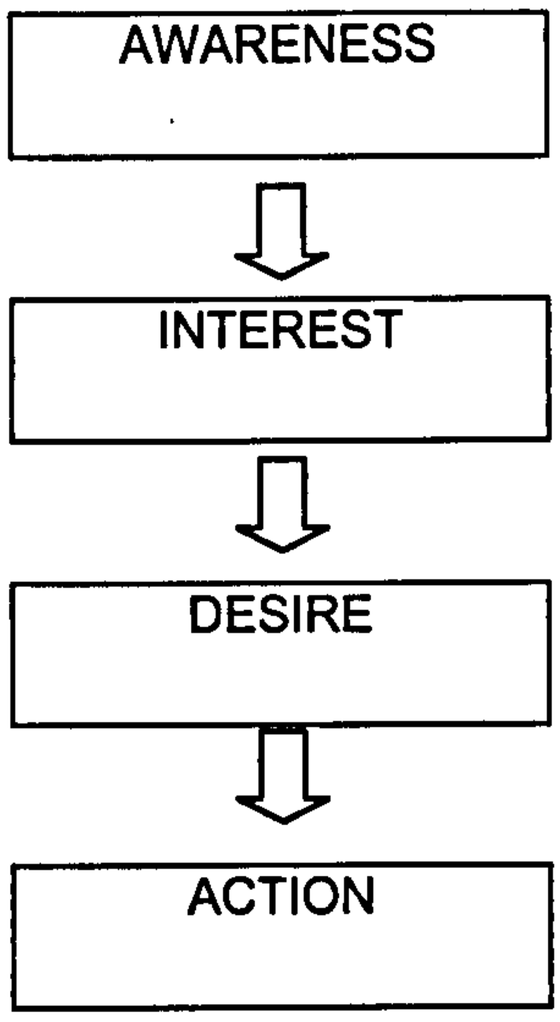

FIG. 1: AIDA Model (St Elmo Lewis, 1898)

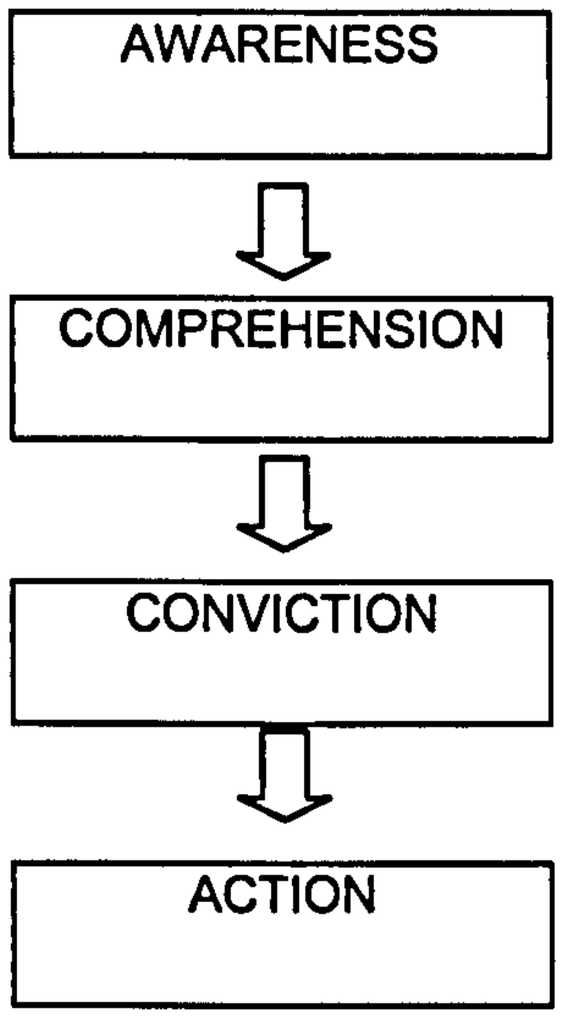

FIG. 2: ACCA Model (Colley, 1961)

Models such as these have a common theme. Advertisements aim to gain attention in order to be persuasive and directly trigger consumers to act on whatever feelings toward the brand may have been created. Attention is a key factor and without it, the process does not progress on to the next stage. It is this element of focus *i.e.* taking notice of something, which is represented by Awareness in advertising models such as those above. This stage approach is fundamentally rational and does not consider the effects of product type, experience of the brand, or communication channel, for example. Although action is the cumulative point of the models, it is important for an advert to be successful in each of the in-between stages in order to reach this point. It may even be that the importance of these processes is underestimated by hierarchical models like these, which assume that the level and frequency of message delivery is always constant within an advertising environment [Huey (1999)]. Huey offers an improved variety of model in the form of a double helix,

representing advertising as multidimensional, with 'time' running through the middle of the model, and the two parallel strands of 'media' and 'messages' spiralling around it (FIG. 3, below).

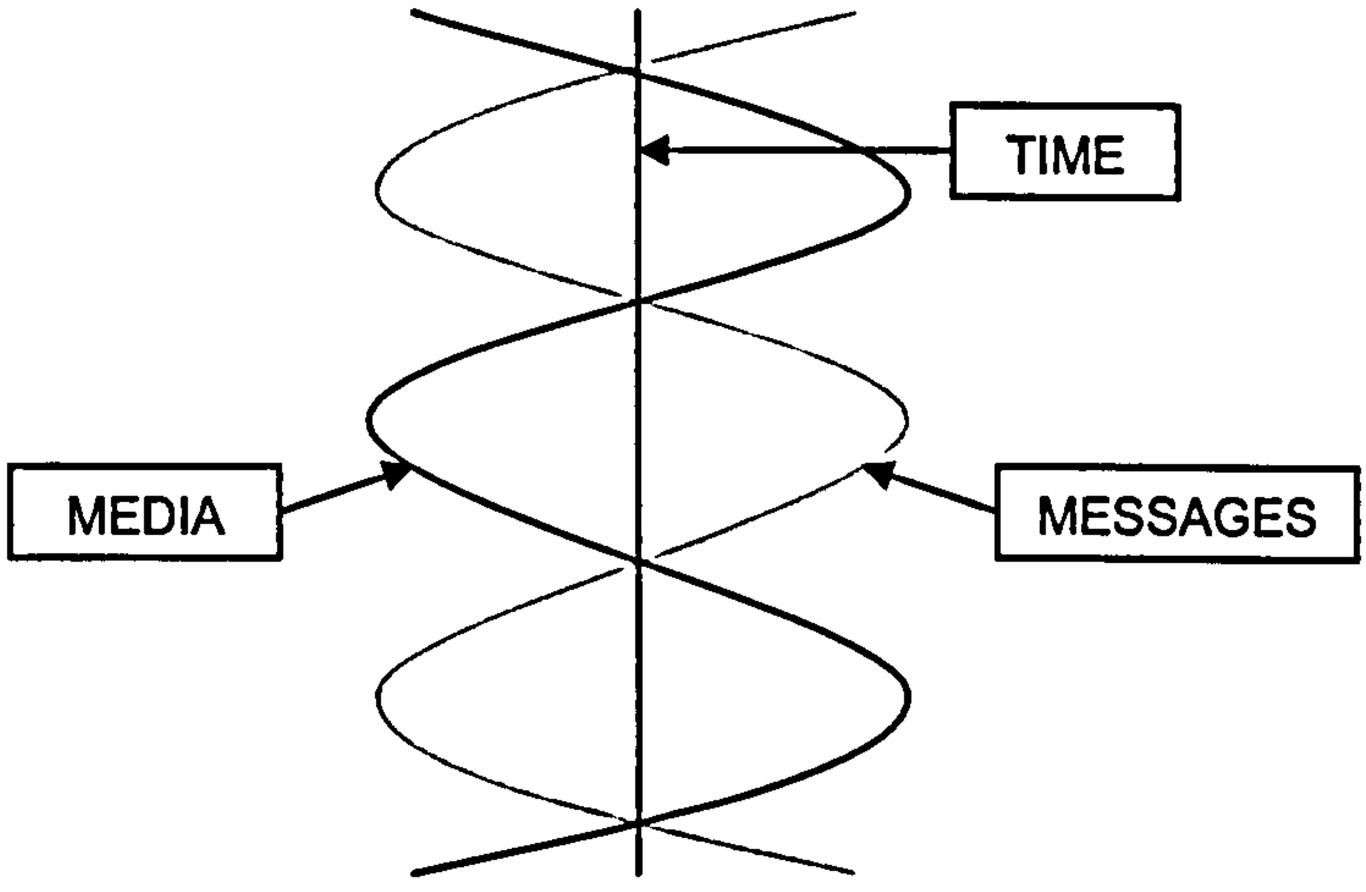

FIG. 3: Double Helix Model (Huey, 1999)

Elements of other models such as Attention and Action can be organised in the strands to represent their effect. The whole structure of the model takes into account the effects of time and the processes that can occur between different elements, rather than just the linear progression of moving from one stage to the next as is seen in hierarchical structures. Importantly, Huey points out that "Persuading consumers (and keeping them persuaded) is a continuous process" and this model recognises that advertising influences can be present throughout.

Even if the process of advertising is not as straightforward as the hierarchical or flow models suggest, a common point emphasised is that adverts need to be able to somehow affect consumer attitudes in order to eventually affect their

behaviour. This could be the key to defining advertising effectiveness *i.e.* adverts should not necessarily be judged on the final outcome of Action, but how well they can perform in terms of making sure the consumer takes away the most positive and influential information and impressions of the brand. These impressions go some way to ensuring that this brand will stand up to the competition when the time does come for a purchase decision to be made.

The relationship between attitude and behaviour is often categorised as persuasion, and although persuasion has been deemed an important aim of advertising in the past [Pechmann & Esteban (1993); Petty, Cacioppo & Schumann (1983)], the connection between attitude and behaviour is unquestionably more multi-faceted than this, and its role has been questioned by some research. In brief, the Elaboration Likelihood Model (ELM) [Petty et al. (1983); Petty & Cacioppo (1986)] claims that persuasion can be reached though the 'central' or the 'peripheral' route. The central route is used when the consumer focuses attention on message relevant advert information, and uses their experience and knowledge to assess and elaborate on the information. The peripheral route is used when the consumer does not think about the message content, and uses peripheral cues as a basis for attitude formation. The route is largely determined by the consumer's ability and motivation to process, which affects the likelihood of elaboration [Lien (2001)]. However, Ehrenberg, Barnard & Scriven (1998) suggest that advertising works by publicising a brand, rather than persuading consumers that a brand is better than its competitors. Therefore their suggestion is that the most realistic aim for advertising is to make a brand salient. These two routes to consumer influence

are separated and defined. Publicity is a "weak force" that works by creating memory traces leading to brand maintenance, and persuasion is a "strong force" that aims to differentiate brands from one another, leading to extra sales. Persuasion is not always seen in advertisements, as many are only designed to remind consumers of the brand and its associated characteristics. Also, there may be a substantial time interval between advert exposure and brand purchase, and persuasion may not work in such a long-term context. Publicity, however, can help develop or maintain brand salience *i.e.* people will be aware of the brand, have positive attitudes towards it, and will at least consider it as one of their options when they next buy from that product category. Barnard & Ehrenberg (1998) emphasise that many adverts do not seem to explicitly differentiate the brand from others, or be overtly persuasive, therefore motivating consumers to prefer one brand over comparative ones (by affecting reasoning or emotions) through advertising seems unlikely. This view that advertising has little capacity for persuasiveness, as its main function is to reinforce brand salience [Ehrenberg (2000)], has been supported by others who believe that advertising does not necessarily have an impact on brand image [Miller & Berry (1998)], rather influencing levels of brand salience which can lead to increased market share. However, this view does not allow much scope for the consideration that positive brand attitudes can be created as well as maintained, and that consumers may choose one brand over another during a purchase decision because of the associations that have been created. However this process works, advertising involves more than direct persuasion.

Tracking research is a traditional measure which attempts to link advertising effects to attitudes and behaviour. It assesses how consumers have reacted to advertising in relation to expectations created by pre-testing results [Franzen (1999)]. This type of research involves over-the-phone interviewing of a large sample of consumers from a particular target audience, whereby the same set of questions is used, over set time intervals *e.g.* every 2 weeks. This enables the effects of specific advertising to be assessed at various points in time, over long periods *i.e.* several months. Tracking measures usually include recall, likeability and brand awareness, attitude and buying behaviour [Franzen (1999)]. Early tracking studies (*e.g.* Millward Brown in the 1970s) often assessed audience intentions to buy as an indicator of actual purchase behaviour. This assumption has often caused researchers to conclude that an advertisement is effective if intention to buy is high. Although intentions and behaviour have been shown to be strongly linked in some contexts [Pieters & Verplanken (1995) found high intention-behaviour consistency between pre-election voting intentions and actual voting behaviour in the Netherlands, significantly affected by intention confidence and amount of reasoning used], it is more difficult to prove a direct link between advertising exposure and brand choice, which occurs further down the line. Also, intentions are not necessarily unitary and highly persuadable consumers may develop more than one. The influence of an advertisement in terms of creating, or increasing, favour for a certain brand might produce some desire to buy that brand at the time of impact, although this intent may not carry through to purchase behaviour. Also, the effects of an advertisement on actual behaviour might not be truly apparent until a decision has to be made in terms of consumer needs. Heath (1999a)

criticises tracking studies in these terms, proposing that the processing of brand information is rarely rational. He suggests the 'icon' approach to analysing brands, which involves measuring the strength of brand associations, as a more effective evaluation of advertising effects. In light of this kind of approach, it is extremely probable that advertising influence is more subtle than previously advocated, and that taking intentions as true predictors of behaviour lacks a consideration of the ways an advert can be effective other than explicitly influencing purchases.

Some theorists have tried to define the major aims of advertising in order to help judge effectiveness in those terms. Franzen (1999) elaborated on the 4 existing models of advertising developed by Hall & Maclay (1991), proposing that 7 models can adequately describe the different advertising mechanisms which exist today (FIG. 4 & FIG. 5, below).

- The **sales response** model
- The **persuasion** model
- The **involvement** model
- The **saliency** model

FIG. 4: Advertising Models (Hall and Maclay, 1991)

- The sales response model
- The persuasion model
- The relationship/involvement model
- The awareness/saliency model
- The **emotions** model
- The **likeability** model
- The **symbolism** model

FIG. 5: Seven Advertising Framework Models (Franzen, 1999)

This type of approach attempts to provide an all-encompassing guide to measuring advertising effectiveness by outlining the areas in which an advert should be successful. Each of the 7 models describes a consumer response. However, there is some overlap *i.e.* the aim of one may also be important in producing effects which are part of another model, some approaches may

encompass a combination of several of these models, and each model involves intermediate effects as well as the primary effect from ad exposure [Franzen (1999)]. Within some areas of advertising *e.g.* financial service advertising, framework characteristics can influence the effectiveness of a campaign in different ways, and the main model employed can often differ between companies within the same business area [VanDerLee & Smit (2000/2001)]. This all suggests that even when advertising aims can be precisely defined, adverts themselves may not always fit into the defined categories, at least not in a straightforward way, and it seems overall, adverts will still be aiming to achieve the universal goal of positively influencing their target audience.

Some theorists have focused more on the major effects that could be said to be underlying many models of advertising theory which attempt to describe all of the ways an advert could influence a consumer. One example of this is the distinction between cognition and affect. The cognitive aspect of consumer attitudes is that which relates to their knowledge of the brand or product, while the affective component relates to their emotional perception. These 2 concepts can then be linked to the way communication objectives are developed in the advertising process. The theory of cognition and affect is discussed in more detail below (see 1.3.3).

1.3.2 Advertising Effects - Attention and Memory

Attention *i.e.* a selective component of perception, is a key consideration in advertising, as attention to the advert on some level is a pre-requisite to other cognitive processes that follow. Heath (1999b) mentions the traditional notion

that if an advert does not 'cut-through', the consumer will not remember the advertising message. McGuire (1978) proposed an advertising effects model including attention as a major component, occurring early on in the communication process (FIG. 6, below).

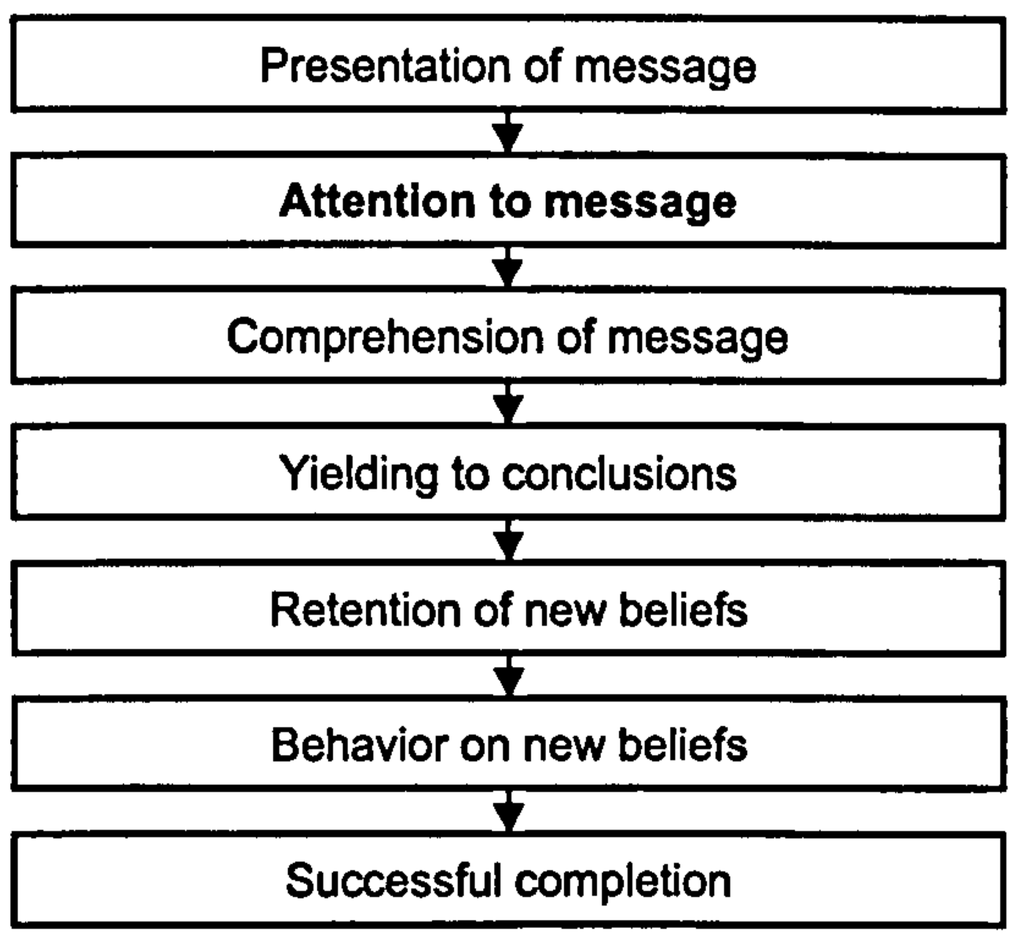

FIG. 6: Advertising Effects Model (McGuire, 1978)

This model is, however, quite simplistic and outlines a sequence of events that may underestimate the complexity of mental processing that occurs, and as with early hierarchical models, does not consider the varied effects different types of advertising, or media, may have. Olshavsky (1994) believed that other components must be present for an advertisement to have an impact (*i.e.* so that the consumer desires information about the product). Heath (2000a) explains that high-involvement processing (involving working memory and attention) is essential here, but in day-to-day situations, we use a shallow form of processing (pre-attentive processing), and switch our full attention to situations only where the need arises. However, Heath emphasises that we process information at different levels of consciousness and much advertising is processed at a low-involvement level. Pre-attentive processing is

subconscious, whereas low-involvement processing is "conscious and stores information in our long-term memory", even though it occurs without much attention. Therefore, brand information can still be processed through implicit learning, rather than working memory.

It seems that attention and memory are closely linked within the cognitive response to advertising, and may be fundamental to changing attitudes that will affect behaviour. Attention can be captured on different levels and can be related to the media channel being used. A TV advertisement may be processed at a level of low-involvement, as TV can be present in the background and watched without requiring high levels of attention or processing, whereas print advertisements (as used in this study) generally require more involved attention. This may affect the type of memory that is formed. Memory has been used as a measure of advertising effectiveness by many, for example, Gullen (1995) investigated the effect of exposure frequency on recall and Bock & VonRath (1997) studied the effects of attention on memorability of brand names in a magazine context. An early example of memory being used within the field of advertising effectiveness is the Starch test, developed in the 1930s by Starch and Gallup [DuPlessis (1994b)]. This is a test of (print) advertising perception, carried out through consumer interview techniques, assessing to what extent consumers recognised an advert ('noting' score), associated it with the brand name ('seen-associated' score), and if they read at least 50% of the copy ('read most' score) [Jones (1998)]. In 1950, the 'impact' method was developed from 14 years of research [Gallup (1950)]. This was a measure based on recall and 'aided recall', as opposed to readership,

which had relied on recognition. Respondents were interviewed and specific measures included 'proved name recall', 'idea registration', 'buying urge', 'identification' and 'product use'. Although applied to national magazines, this method was said to be appropriate for any medium.

It is clear that it has been thought possible that memory processes are linked to the formation of attitudes to the ad and other consumer responses. The two memory measures seen in advertising research are recall and recognition. Recall has been used in many studies to evaluate ad effectiveness and there have been different types of recall measurement. Higie & Sewall (1991) focused on investigating day-after-recall (DAR: asking subjects if they recalled hearing radio adverts while they had been taking part in the questionnaire research) and brand preference (BPR: asking subjects in a shopping mall which brand they would select during their next purchase decision for various product categories), and concluded that as DAR showed a greater reliability within product category, for particular brands and across categories, it was a more reliable effectiveness measure. Even though other advertising effects *e.g.* liking, may be related to recall performance [Ewing, Napoli & DuPlessis (1999)], on its own recall seems to be a poor measure in terms of assessing the actual influence of advertising on attitudes and behaviour. Recalling an advert or particular advert information may be evidence that some details have been encoded and are retrievable; however, this does not necessarily mean the information will influence behaviour at the time a purchase decision is being made. Also, an advert that has high recall but is *not* well liked is unlikely to influence positive buying behaviour.

Recognition has in turn been studied frequently and using varying methods, but produces a similar amount of uncertainty about its suitability as an effectiveness measure. Many variables can affect recognition performance including advert size and use of colours, and advert recognition can vary across sexes, product groups and over time [Gronhaug, Kvitastein & Gronmo (1991)]. When a subject recognises that they have seen an advertisement before, it may suggest that the advert has had a certain amount of impact, but it cannot guarantee how their reaction to it will affect subsequent buying behaviour. It may be more important for the brand name to be recognisable when choosing between products, as this is where a strong association with the brand will really count. However, in an experimental setting at least, this would prove much more difficult to measure, as real purchase decisions are not being made.

An examination of the research within the advertising effectiveness field indicates that the topic of memory has been widely investigated in this context, although there are many memory measure issues that have only been addressed in relatively recent studies. It has often been implicitly assumed that advertising effects will be manifested through consumer recall and recognition, and that this information is linked to subsequent brand judgements and choices [Keller (1993)]. In an early study, Link (1933) found that when testing recall of the brand name and product, it was the advertising message (namely its connection to the habits, interests, emotions and experiences of consumers), not the form or media presentation of the advertising, that affected the

impression created, although such relationships are only able to explain part of the advertising process. Even if a consumer has formed certain attitudes about a brand through the advertising, not all of these may be retrievable through memory assessment methods. Lucas & Britt (1963) said that many factors can influence recognition and recall, such as interest in the product advertised. They propose that recognition methods only measure what has been noticed rather than advertising effect and that recall methods can not accomplish much more than to measure whatever memorable impressions advertising has created. Lucas and Britt believe that although "Facts, figures, and simple comparisons" are more easily retrieved and measured, it is the symbolic associations, "implanted far more powerfully", which are important but more difficult to access.

DuPlessis (1994b) reviewed the ways in which recall and recognition measures have been studied and used in the past to access advertising memories, and noted that there exists much inconsistency between the views recorded. From this and his own experimental research, DuPlessis made several important points about this research area: the way that memories are accessed can produce different results, and individual measures need to be evaluated within their relative context. Recognition and recall do not measure the same thing, therefore they should not be judged against one another. Recognition can measure an advertising trace in memory, whereas recall retrieves this trace through links with the brand. He suggested that recall and recognition are simply two independent measures out of a large number of methods used to evaluate advertising.

These comments may well lead us to ask whether recall or recognition tell us anything at all concerning how consumers feel about the advertising or what effects it might have had on their perception of the brand. Studies that use memorability as their sole measure of advertising effectiveness are consequently not likely to be reliable as far as being true indicators of levels of advertising effectiveness. However, these studies have relied on explicit memory measures. Perfect & Askew (1994) demonstrated that changes in attitudes can occur even when there is no conscious recollection. Subjects took part in either a deliberate ('formal learning') or incidental ('informal') study condition. All saw 25 full-page colour magazine adverts, and then rated a set of 50 adverts (on 4 salient dimensions) including the targets. Next, subjects were asked which of the adverts had been part of the original set they had seen. Those in the deliberate condition recognised approximately 60%, whereas those in the incidental condition recognised only 11%. However, both groups of subjects showed a positive bias towards the adverts they had been exposed to. Using an implicit test of memory had demonstrated the unconscious effects of prior experience, and this suggested that performance on implicit measures can be independent of explicit recollection.

Heath and other more recent theorists agree that the results of explicit memory-based studies do not correctly represent the type of cognitive processing that actually occurs on exposure to adverts, and influences purchase decisions. Heath (2002) believes that the concept of low-involvement processing can explain how consumers are really affected by exposure to adverts. As outlined

earlier, low-involvement processing uses implicit memory. Brand information is "passively acquired" and associations are formed which later affect purchase decisions (Heath believes that consumers do not desire to actively learn about brands). This type of processing does not involve the production of powerful, rational messages in the mind of the consumer therefore brand decisions do not involve rational thoughts. Although new products and brands become available on the market all of the time, consumers are not aware of them until they are promoted, either via advertising features or when they are in place on the product shelves, and in this sense Heath's belief about consumers 'passively' or 'reactively' learning about brands seems acceptable. Brand information gradually 'sinks in' via advertising messages and, for FMCG products at least, the consumer does not go out of their way to find out the facts themselves. Heath acknowledges that research has been somewhat limited by the fact that detailed memory of the actual learning is often erased, therefore it is difficult to know if information has been acquired in an active or passive way. When we watch TV adverts, we may process them with "great efficiency" *i.e.* store many of the details in long-term memory, but at the time we may not actually be paying much attention (although this processing is conscious). Hypnosis studies such as those carried out by Gordon & Langmaid (1988) have provided some evidence for this. Subjects who, when questioned after exposure to a beer advertisement could hardly recall any details, under hypnosis could recall the characters, what they were wearing, the message of the advert and other particulars. This information seems to be stored as associations which can affect purchase decisions without any additional 'rational thinking'. The decision is made, influenced by these associations, in

relation to a consumer's needs. Essentially, the appropriate information for the purchase decision is retrieved although the person may not have been aware of the extent to which they had processed and stored information from the advertisement. Keller (1993) has also noted the important influence of advertising cues on brand evaluations at the point of purchase (especially when there is a large amount of competitive advertising).

Krugman (1977) discussed low-involvement theory from a physiological perspective, through highlighting the different roles of the left and right brain hemispheres. The left hemisphere deals with reading and speaking, which makes the medium of print a left-brain function, and TV largely a right-brain function. This view evolved from the work of Sperry (1973) [cited in Krugman (1977)] who studied 56 patients with a severed corpus callosum and found that the behaviour of these people was not 'abnormal', suggesting the two hemispheres had been conducting separate operations. Such research is the background to Krugman's observations that high-involvement activities are conducted by the left-brain, and subsequently this is where print advertisements are processed, as these adverts require more active eye movements, and low-involvement activities are largely conducted by the right-brain, triggered by the motionless, 'passive' eye characteristics of TV viewing. In terms of low-involvement theory, Krugman said that after exposure to advertising (or repeated exposure), we store an image memory, an effect which is not "readily apparent" at the time, but becomes apparent when a behavioural trigger is present at some point further down the line. The left-brain is not involved because no connections or thoughts occur during exposure, and

because the right-brain was active and formed a visual memory, there is no recall. However, recognition memory can be improved, especially if there was repetitive exposure. Recognition can measure "picture-image memory potential", which advertising can create or increase. In support, Rossiter (1981) investigated the prediction of Starch scores and found 'noted' (recognition measure) and 'associated' to be low-involvement measures of advertising effectiveness according to Krugman's theory. Krugman suggested that recall as an advertising measure is more appropriate for assessing high-involvement impact, even though a doubt still lingers over the question of how effective explicit memory measures are in general.

Memory measures can evidently be an ineffective way of accessing the information consumers have taken away from an ad, as the information is not stored in the form of rational details in many cases. Consumer attitudes may well have been affected, but overt memorability, even recognition, cannot reliably indicate how. Heath (2000a) stands by the proposition that the important job of an advert will be to create positive associations in the minds of consumers, important when a choice is between two brands that can equally satisfy their needs. Goode (2001) endorses Heath's proposal that it is the passively formed brand associations that affect brand decisions. Feelings or sensations, not necessarily words or facts, about a brand are automatically retrieved from implicit memory. Therefore, advertising awareness and detailed recall cannot possibly measure true advertising effects, and subsequently effectiveness [Heath (2000b)].

Further explanation of Heath's ideas comes in the form of research by Schacter (1996) [cited in Heath (2000a)] who proposed that long-term memory consists of networks of connected neurons, or 'engrams'. These are formed when the encoding of an experience forms strong connections between active neurons.

Heath (2000a) suggests that brands are represented by masses of electrical pathways where information about each brand is connected. These masses are in turn connected to other engrams and each engram is modified whenever we learn something new about a brand. We are able to recall engrams through certain 'pathways' *e.g.* via recall of advertising, and the most frequently used pathways become 'consolidated'. However, we can lose pathways into engrams, possibly when the encoding of more and more new experiences makes it difficult to recall previous ones [Schacter (1996)]. As well as considering the form in which memories are stored, Heath (2000b) considers that memories can be changed by contextual influences, for example, the state of the brain at the time of recall [LeDoux (1998), cited in Heath], or the way in which questions are asked during an experiment. Advertising research needs to find out what kind of feelings and associations consumers have formed, and deal with brands monadically, as decisions are often driven by intuition, not necessarily by reason (Heath). It is clear that not only should we take into account at what level adverts are being processed, but also how the type of media channel may affect this, what kind of memory and associations the processing will lead to and more importantly how this can be measured.

1.3.3 Decision Processes and Motivations

Another key area of advertising research is explaining the actual process of decision making and what factors may come into play alongside advertising effects. An established model of decision making is the Theory of Reasoned Action [Ajzen & Fishbein (1980)]. This social psychological theory attempts to link attitudes to behaviour. It is centred on the concept that human behaviour is rational and a person's attitude toward the behaviour, plus perceived normative pressure, will determine the intention and the intention will in turn predict the behaviour itself (FIG. 7, below).

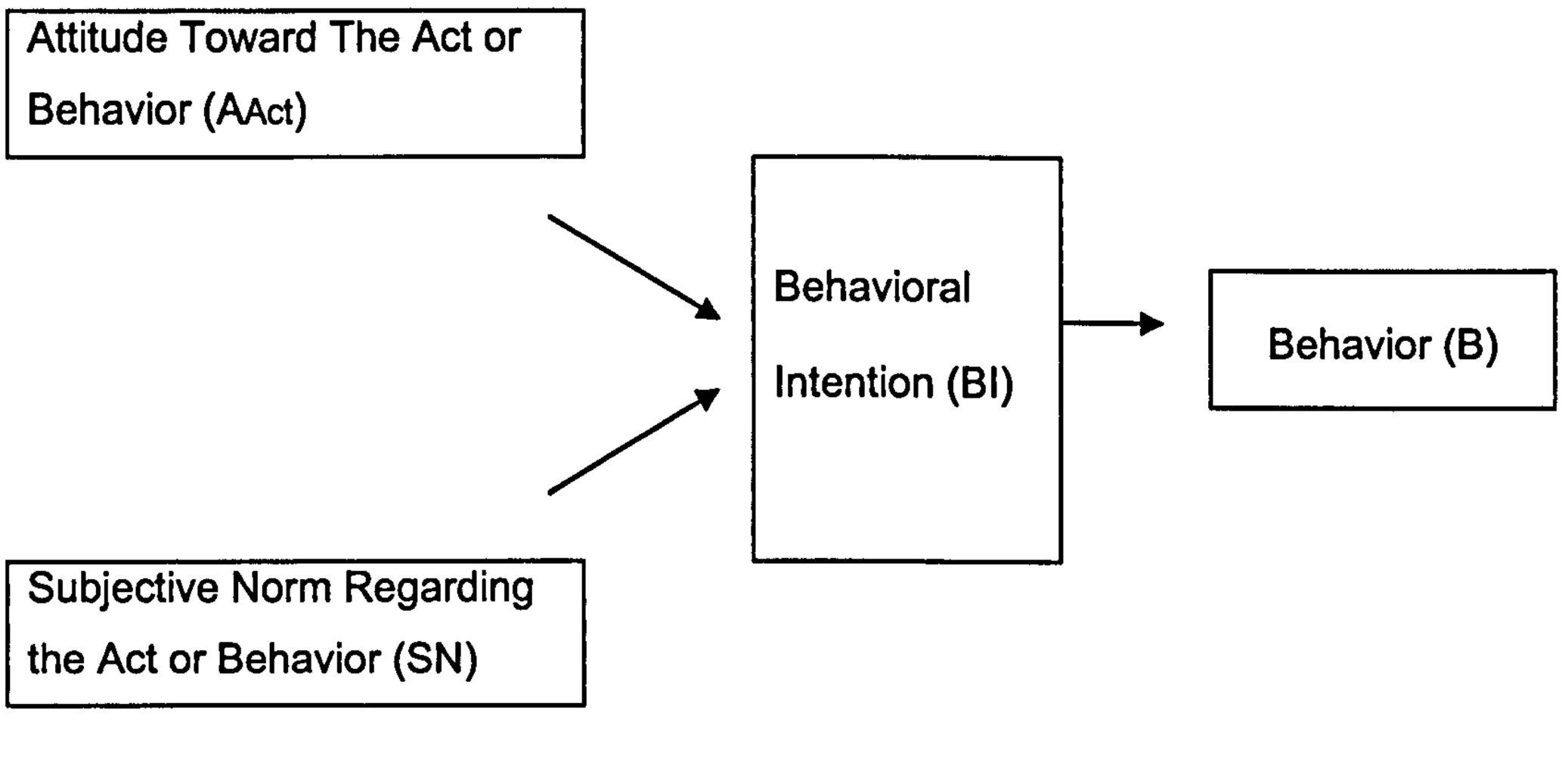

FIG. 7: Theory of Reasoned Action (Ajzen and Fishbein, 1980)

This suggests that measuring consumer attitudes towards brands and their purchase could indicate actual buying behaviour. However, this theory can only predict a person's behaviour and cannot directly measure it, even though some inferred connection can be made. An extension of this theory is the Theory of Planned Behaviour [Ajzen (1988)] which takes into account non-voluntary as well as voluntary behaviour by including a 'perceived behavioural control' element. This is a person's perception of how straightforward the behaviour will

be and if they have the capabilities to perform it. Williams (2001) however, believes that many conventional decision-making models are limited as they assume "unbounded rationality", and that many purchase decisions are made in-store and are less planned than market researchers may think. This type of decision-making suggests that the human brain has evolved enabling quick decisions to be made via mental 'short-cuts', so-called 'fast and frugal heuristics' [Gigerenzer, Todd & ABCResearchGroup (1999)]. These heuristics follow a structure including rules about how to search for information, when to stop the search for information, and how to make a decision, with consumers choosing the most appropriate type of heuristic according to the situation, allowing them to make quick, on-the-spot judgments.

Heath (2000a) suggests that purchase decisions are driven by intuition, possibly via 'somatic markers'. These are positive or negative feelings connected to future outcomes, created through learning [Damasio (1994)]. Certain aspects of an advertisement, for example its slogan, can trigger a somatic marker that may subsequently influence brand choice. Heath proposes that when brands are similar in terms of meeting needs, whichever triggers the most persuasive somatic markers 'wins'. It could be, then, that brand impressions imprinted on our memory will be the cues that will eventually motivate brand selection.

Motivation was named by Kotler (1994) as one of the psychological factors that influences buying choices, but he also suggested we need to develop a general understanding of how buying decisions are made. The type of buying behaviour

will depend on what kind of decision is being made *e.g.* High-involvement (for an expensive item) + significant differences between brands = complex buying behaviour (gather information and make a thoughtful choice) [Assael (1987), cited in Kotler (1994)]. The type of consumer may also affect how decisions are made and how best to assess them. For example, a characteristically loyal shopper may make purchase decisions triggered by a different set of influences than those of a spontaneous consumer. Swindells (2000) suggests that consumers seem to be "rather poor at identifying what they really want". This means that it can be difficult to interview consumers directly about their reasons for choosing certain products, as advertising messages can be unconsciously registered. Assessing consumer shopping characteristics could be a more effective way to relate attitudes to behaviour, rather than forcing consumers to give precise answers about their reasons for specific purchases.

One framework of consumer attitudes and behaviour widely referred to in advertising research is cognition and affect. Consumer motives were classified as such by McGuire (1976) [in Evans, Jamal & Foxall (2006)]. The basic premise that consumer motivations can be based on knowledge (cognition) or emotion (affect) is proposed under several models all essentially based around the same theory. Examples include cognition and emotion, and informational and transformational effects. A cognitive motivation will be based on information and knowledge, and advertising effects will occur through information processing. Affective motivations, on the other hand, are built around emotional feelings (which can be positive or negative) and advertising effects will occur via the presentation of an experience to the consumer.

Advertising could aim to appeal to the consumer via one or other of these processes, or the objectives could be a combination of both concepts depending on the audience and the type of product.

Relating to this is the theory of cognitive dissonance, outlined by Festinger (1957). Cognitive dissonance is a state of unease, a conflict between cognitions. In consumers, this could occur pre or post exposure to advertising *i.e.* the advertising itself could be a cause of dissonance, or the purchase process could end in a form of cognitive dissonance. One way advertising can create cognitive dissonance is by showing the consumer how improved their lifestyle could be if they purchased the brand in question. A consumer who previously felt happy and content with their current brand may start to feel there is something better to suit their needs. This could lead to the purchase of this superior brand. In the same way, once a purchase has been made, cognitive dissonance can occur if the consumer begins to doubt they made the right choice. This can subsequently trigger behaviour to try to alleviate feelings of dissonance, which may be changing brands again, or seeking out some kind of reassurance that their chosen brand was right for them. It may also be said that advertising can aim to overcome dissonance in consumers and in some cases advertising can tackle the pros and cons of a decision the consumer might be uneasy about by presenting a two-sided argument in the advertising content [Evans et al. (2006)]. Much advertising can be seen to reinforce in customers that the brand they have chosen is indeed the correct choice. In some consumers, cognitive dissonance could be motivation to seek out more advertising of the brands they use, become indifferent to other brands and

actively avoid advertising featuring brands they have rejected. Repeated exposure to advertising which reinforces their brand beliefs may enhance this kind of behaviour.

Attribution theory is closely linked to the cognitive theory discussed above, and pertains to the internal or external factors people use to explain particular behaviours or outcomes of behaviour. The framework of this model was developed by Weiner in the 1980s. A fundamental attribution error (FAE) can occur when a person attributes something to an internal cause rather than external factors acting on them, so for example brand choice might be defended by a consumer as they feel it was a personal decision and based on their needs, and not on some other outside influence.

Motivations and attitudes to advertising can also be affected by the demographics of the target audience. Age, gender, socio-economic status, family dynamics and previous purchase behaviours can all help marketers to know who they are communicating to and to subsequently tailor the advertising message. Past behaviour can affect future decisions and attitudes towards advertising featuring a familiar brand. Operant conditioning also becomes relevant here. The term coined by Skinner, refers to the consequences of a behaviour on that behaviour in the future. In relation to advertising, this can mean the reinforcement of purchase behaviour via positive experiences of a brand/product and its benefits. Purchase behaviour might be repeated because of the projection of positive brand connotations and the reinforcement of beliefs through advertising, although the opposite effect can also occur. The first time

a consumer buys a product is often a trial purchase and positive experience can increase the inclination to buy the brand again [Franzen (1999)]. This might be the start of brand loyalty.

Just as there can be different classifications of consumer motivation, in terms of accessing the most useful and accurate information about advertising effects, Branthwaite & Swindells (1995) [cited in Swindells (2000)] proposed there are different classifications of information processing and consequently the methods used to access the information acquired should reflect this. The class that most relates to the processing of adverts is episodic processing (the storage of specific episodes which are visually recalled). Semantic processing, on the other hand, involves the active processing of information. This may be more applicable to advertising presented through types of print media. 'Stream of Consciousness' interviewing is designed to access episodically processed information and different types of interior monologue methods can be used as part of this to gain information from 'uncommitted consumers' (who may be involved *i.e.* note the presence of other brands, or uninvolved *i.e.* passively register brand related information). Committed brand users, the 3rd type of consumer (uncommitted involved and uncommitted uninvolved being the first 2), episodically process competitive brand communication but semantically process information concerning their 'own' brand, which means an individual depth interview would most effectively assess reasons for their brand choice.

Although this kind of research suggests that different types of consumer can influence the sort of brand information processed, it seems the most important

points to note concerning decision-making are that consumer brand choices are not necessarily planned, are influenced by the brand information they have encoded by whatever means, and measures of advertising effects should be appropriate to the type of information they are trying to access.

1.3.4 Involvement and Attitudes - How Important is Likeability?

Level of involvement with the brand, product group, advertising or medium may affect consumer responses. Franzen (1999) suggests that involvement with advertising is determined by involvement in other areas, for example, the importance of the brand or product to the consumer, how personally relevant the advert is to the consumer, and how closely the advert relates to the consumer's own values and interests. It is also possible that involvement is manifested by other advertising measures, such as attention, memory and consumer attitudes towards the ad.

Much research has been executed with the aim of defining levels of involvement and their effects on purchase decisions. The Foote, Cone and Belding (FCB) Grid [Vaughn (1980)] is a well-known planning model which separates purchase decisions into high and low-involvement, thinking and feeling, in a matrix design where the effects of advertising in each quadrant involve a particular order of affect, cognition, and experience. On evaluation of the FCB grid across 6 studies using different methods of data collection, Ratchford (1987) suggested that comprehensive profiles of these dimensions are required, and the grid should be validated against actual behaviour, suggesting its limitations in real-world situations. Rossiter, Percy & Donovan

(1991) attempted to produce an improved version of the FCB grid by replacing cognition and affect with a motivation dimension to account for informative (negative) *vs.* transformative (positive) motivations, also introducing brand awareness as a necessary precondition to brand attitude [Franzen (1999)]. However, these types of advertising frameworks remain somewhat rigid, and do not seem to fully account for any interaction there might be between different consumer and advertising variables. In a recent piece of research, Brace, Edwards & Nancarrow (2002) examined the role of involvement in advertising effectiveness by reviewing literature in this area. They suggest that, taking into account the factors included in planning grids such as those mentioned above, the role of involvement may not be straightforward. They suggest that other factors may influence a consumer's predisposition to become involved, and that particular advertising features could encourage involvement. As part of their research, taking into account general disposition to advertising and to a specific ad, they proposed that there exist different categories of audience, each with varying dispositions to TV advertising. This suggests that dispositions to different types of medium may vary, and therefore targeted advertising may not reach everyone it intends to.

Of course, involvement can be assessed in other forms. Tavassoli, Shultz & Fitzsimons (1995) investigated the influence of context on advertising effectiveness. 86 university students were placed in 2 conditions. Subjects in condition 1 watched a televised soccer game where there were no commercial interruptions. In the second condition commercials interrupted the game. The results showed that where there was an increase in involvement with the TV

program from low to moderate levels, the adverts were more effective (ad memory and attitude toward the ad were measured). When involvement increased beyond moderate levels, ad effectiveness decreased. Mood has also been shown to affect the way advertising is processed [*e.g.* Al-Jarboa (1997), and Batra & Stayman (1990) who found positive mood facilitated brand attitudes]. This introduces another influence beyond involvement with the brand, product, or even the advertising, as it considers that the context in which the advertisement is shown, or the mind-set of the consumer, can already have an effect on how the advertising is processed.

Product and brand involvement are important as they have been thought to affect brand loyalty, one of the major aims of advertisers. Fazio, Powell & Williams (1989) found that the more accessible consumer attitudes towards a number of products were, the more predictive the attitudes were of subsequent behaviour (based on actual, not reported behaviour). Quester, Karunaratna & Lim (2001) found support for a relationship between product involvement (PI) and brand loyalty (BL), although one implication of the research was that the relationship is by no means a simple one, as different aspects of consumers' 'involvement profiles' can have different influences on brand loyalty. Knox, Walker & Marshall (1994) discussed loyalty to Fast Moving Consumer Goods (FMCG) products in relation to a basic model of consumer involvement (FIG. 8, below).

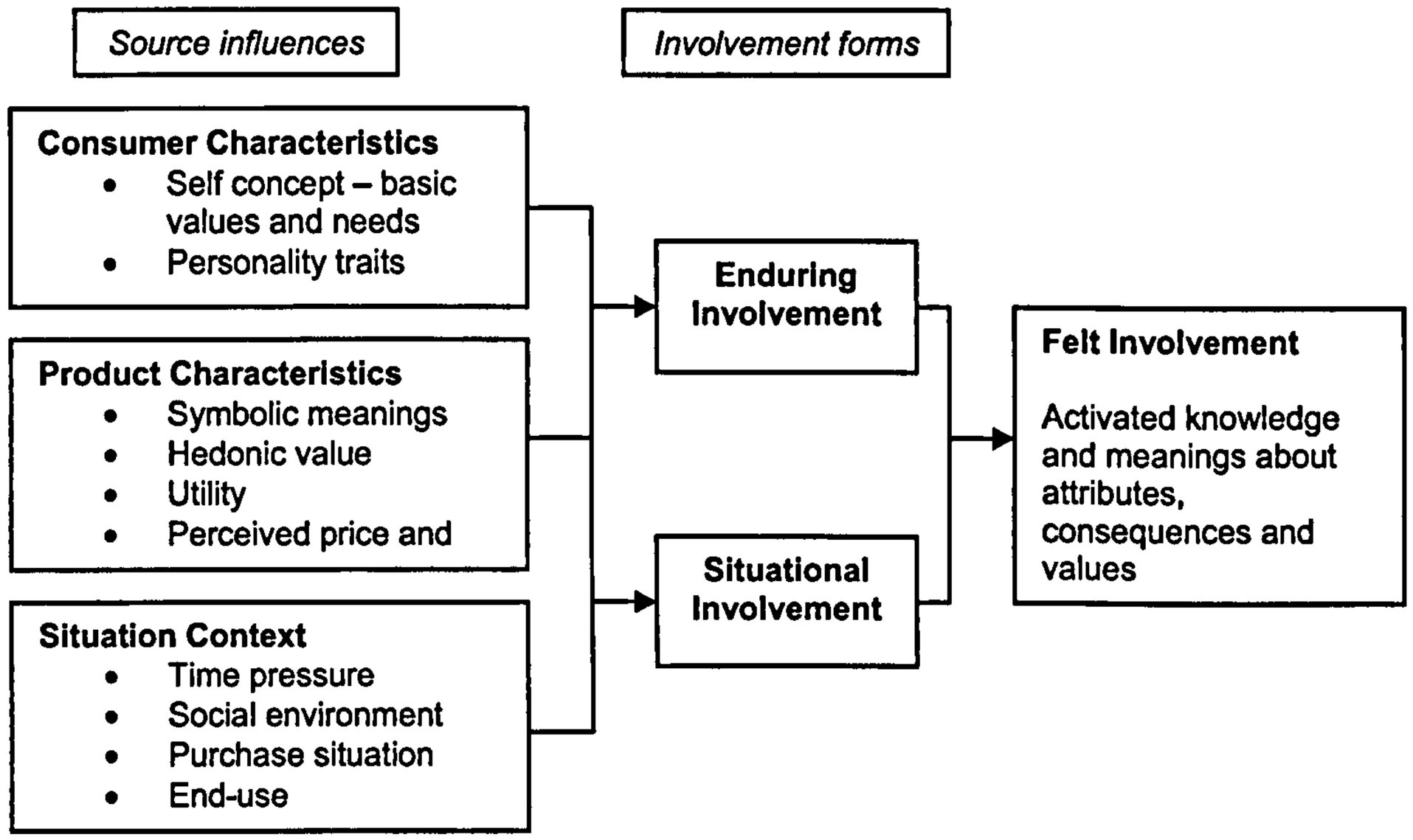

FIG. 8: Basic model of consumer involvement (in Knox et al., 1994)

This model shows consumer involvement to be a function of the interaction between two levels of involvement: enduring, and situational. This is in turn caused by the context of purchase [Bloch and Richins (1983), cited in Knox et al. (1994)]. Such a design considers different types of involvement on several levels. A causal model of consumer involvement, validated for consumer durables, was derived from this work by Mittal & Lee (1989). Knox et al. considered whether this measurement device could detect differences in levels of involvement with grocery products. Studying 7 product categories, using questionnaire methods to measure the involvement constructs, it was found that significant differences in the sources and forms of consumer involvement with grocery products could be measured. Results such as this suggest that involvement levels for different product categories could have varying behavioural consequences. Involvement obviously fluctuates on many levels, and it seems almost impossible that any study can prove how the involvement-behaviour relationship works for them all. However, involvement studies do

highlight the importance of considering this kind of influence during advertising research.

Franzen considers attitude to the ad as an indicator of effectiveness. This is an overall measure of appreciation of the advert, but can be distinguished from attitude to the content or message of the ad, and attitude to the presentation of the message. It has previously been suggested by Prue (1994) that effective advertising campaigns succeed in terms of several fundamental influences *i.e.* involvement, persuasion and salience. Franzen suggests that liking should also belong to this group. Liking represents an overall positive feeling or reaction towards something, a favourable evaluation. Three underlying dimensions of liking, each with an extreme pole, have been documented by several researchers, including Aaker & Stayman (1990) and DuPlessis (1994a). How meaningful/confusing is the advertising? How amusing/over familiar is the advertising? How empathic/offensive is the advertising? Advert appreciation and liking are positively linked, and liking is an important response for 6 of Franzen's 7 advertising models (discussed earlier), although the significance of the underlying dimensions varies across the different models. However, in general, Franzen highlights likeability as "the basis for sustained attention and deeper processing".

Attitude toward the ad may be influenced by factors such as humour or relevance, which can make a piece of advertising more likeable. Measuring liking has been thought by many to be a good indicator of advertising effectiveness, as it is often positively correlated with other advert attitudes, and

memory measures, and could be a mediating factor in overall advertisement attitude. Walker & Dubitsky (1994) found a moderate though significant correlation between liking and other validated effectiveness measures. Leather, McKechnie & Amirkhanian (1994) said that levels of likeability can predict sales and design effectiveness of TV commercials. Metha (2000) found that general attitude toward advertising can also have an effect. Based on a study of print advertising, subjects who had more favourable attitudes toward advertising in general were able to recall more advertisements the day after they had been exposed to them. These subjects were also more persuaded by the adverts.

Likeability may be increased if the consumer perceives the advertisement to be of relevance to them and their lifestyle. Baker (1993) proposed a Relevance Accessibility Model (RAM) which assumes that for an advert to have an effect on brand choice, the advertising message appeal must be accessible, and viewed as relevant by the consumer. Accessibility is affected by consumer involvement (with the advertising message) at the time of exposure, which affects the efficiency of message encoding. Kotler (1994) made a similar point. The advertising message should overlap with the viewer's field of experience in order for it to be effective. Brannon & Brock (1994) emphasised the importance of individual differences, and suggest that advertising messages are more persuasive when they are more similar to schemas consumers already possess. Kahle & Chiagouris (1997) wrote about "values, lifestyles and psychographics" (*i.e.* consumer preferences) being of value to an understanding of consumer behaviour. Therefore, the way consumers evaluate and represent lifestyle information, the social context in which values are held,

how values influence response to stimuli, and the link between emotions and relationship to brand, are all possible contributors to levels of advertising effectiveness.

Goode (2001) highlights evidence that shows increased liking may depend on what we retain in our implicit memory. Subjects saw a series of adverts during a 'training phase', then during a second phase the same adverts were shown mixed with new ones, and liking and memory responses were recorded. Memory was measured using the 'Process Dissociation Procedure'. Adverts had been presented in different contexts across 2 tests, and subjects were asked to identify in which context adverts had appeared. Responses were used to estimate implicit and explicit memory. The results showed subjects liked products better when the advert was 'old' rather than 'new'. The greatest increases in product liking occurred where the largest amounts of implicit memory were observed. This relates to the 'mere exposure effect' found in other studies [Zajonc (1980)]. Liking for a stimulus increases when it has been seen before, but this is not dependent on conscious memory.

Overall it seems that attitude toward the ad may be an important influencing factor in advertising effectiveness. Liking (of the advertisement) is possibly an underlying dimension which can be used to predict consumer attitudes on other dimensions. It certainly seems likely that these feelings towards an advert could affect brand choices, although it is difficult to prove a link with behaviour.

1.3.5 How *Should* we Measure Effectiveness?

It is clear that liking is an important factor which is related to other attitudes towards advertising, such as relevance, and this kind of measure may well be effective at predicting which adverts will create the most positive brand impressions. Conversely, memory assessment may not be an appropriate way of accessing attitudes which have been formed. Some evaluation of what consumers have taken away from the advert without a direct assessment of rational memories should be an improvement on previous measures of effectiveness. This kind of measurement may be conducted in interview or questionnaire form, but to advance what we already know about the effects of advertisements, new research needs to incorporate some method to determine how adverts are processed, in terms of what consumers attend to, and what in particular they find interesting. Combined with information about feelings towards the advertisement, this would allow the relationship between physical response to the advert and the positive or negative effects of it on attitudes, to be investigated.

Recent effectiveness research has looked to harbouring advances in experimental technology to investigate such aspects of advertising. One of the tools being increasingly used is eye-tracking to study attention to adverts and specifically aspects such as how responses change depending on the number of exposures to an advert, and which ad elements capture and hold attention the most. Participants are shown target stimuli and because their head movement is limited to a degree (to what extent will depend on the specific equipment being used) their attention patterns can be accurately recorded and

'mapped' onto the image. Usually eye-movement data is analysed through the distribution and length of 'fixations' *i.e.* clusters of activity between saccades. These concentrations of activity represent points on which attention is focused. Eye-tracking requires strict controls in terms of the environment in which it is carried out, therefore there is a trade-off between accessing quantitative data showing how adverts are viewed and the effects of a real environment in which a consumer is exposed to some advertising stimulus. Lucas & Britt (1963) underlined these fundamental pros and cons: fixed seating/head positions and forced exposure may weaken ecological validity, although eye-movement recorders are technically objective. Eye-movements can be tracked whilst retaining some elements of 'real-life' interaction with stimuli, for example, allowing participants an unrestrained viewing time to mirror the way they would respond to an advert at home. However, in the laboratory environment eye-tracking requires, experimenter effects also become a factor, and subjects could potentially strive to display behaviour they think is acceptable to the experimenter and the aim of the study.

There are many specific benefits to using eye-movement technology in advertising research, one of which is the investigation of the size, colour and positioning of advert components [*e.g.* Rosbergen, Pieters & Wedel (1997)]. Eye-tracking would enable a detailed study, were the appropriate conditions to be in place, of attention to different colours and levels of contrast against the background of an advert, the size of the slogan and other major areas conveying brand information and the positioning of these areas, in order to

optimise advert design in the development process. Eye-movement analysis as a method is discussed in further detail in the next chapter.

Using new methodologies can improve the range of insights we get into advertising effectiveness, but the possible influences of many variables need to be considered. Lucas & Britt (1963) said "It is extremely important that messages reach large numbers of the right kinds of people in the right frame of mind at the right time", emphasising that the balance of a whole range of variables needs to be right if advertising is to be optimally successful. Choosing the most effective medium has often been decided by comparing aspects such as reach (how wide-reaching will exposure to the advert be?). However, this means differences in processing are not considered. Each medium has positive and negative characteristics, but in what ways are these media processed when consumers do attend to adverts? We know that TV and print advertisements may involve different levels of processing as the information is communicated in different ways, so a comparison of different types of adverts across different media channels might be valuable. There has been a good deal of research in each separate field, while comparative studies are fewer. In terms of print advertising, Naccarato & Neuendorf (1998) concluded that advertisement characteristics need to be tailored depending on the advertising goal. Concerning styles of writing, Motes, Hilton & Fielden (1992) discovered that sentence structure, text layout and illustration changes are not independent and may affect one another. Regarding outdoor advertising, research by Bhargava & Donthu (1999) has suggested sales response depends on the location of exposure. Davies (1999) has proposed that outdoor

media has many strengths including the fact that it takes advantage of consumers' redundant time. Focusing on the general effectiveness of media, Wood (1961) made an important distinction between exposure and perception: "Unless the object is there to be seen.....it cannot be experienced". Unless consumers attend to an advert on some level, it may not have any effects at all.

A valuable focus of this advertising effectiveness research will be on the adverts themselves, attitudes towards them, attention patterns and what impressions about the brand are created, rather than attempting to link exposure to adverts to buying intention, and trying to predict behaviour from this. The particular research techniques and experimental methodologies are explained in detail in the following chapters.

Although it is important to remember that however advertising increases awareness or changes attitudes, campaigns are ultimately designed to increase sales [Mitchell (1993)]. It is also important to investigate the cognitive effects of advertising within specific boundaries, as no frameworks or models have so far managed to define and explain all of the possible influences on the processing of adverts.

1.4 Conclusions

Franzen (1999) reports that the main findings of the University of Amsterdam concerning the way advertisers and agencies deal with advertising frameworks are that generally, no lucid, specific communication aims are developed, the measurement of advertising effects is not a priority, and the research is only

carried out when specific uncertainties arise. There definitely appears to be a lack of research explicitly aimed at assessing the cognitive processing of adverts.

An important starting point for this research is to define what we consider 'advertising effectiveness' to be. Even a brief look at past research on this topic indicates that 'effectiveness' cannot be reliably assessed by a single measure. Taking into account the relationship between attitudes and behaviour it seems that the main aim advertising should have is for consumers to take away the best possible impression of the brand compared to others, as these associations are what will eventually affect behaviour.

The direction of advertising research should focus on the adverts themselves, their characteristics and effects and not rely on consumer intentions, generated revenue or sales. Eye-movement methodology has shown to already be part of this progression in the field of advertising. Previously used as a tool in studies including those based on human attractiveness judgements [*e.g.* Becker, Kenrick, Guerin & Maner (2005)], reading processes [see Rayner (1998)] and search tasks, [*e.g.* Hornof & Halverson (2003)] it has now been introduced as an advanced approach to assessing the effects of physical advertisement characteristics on audiences. This method is already at the forefront of research into web pages and the placement of internet advertising [see Ruel & Outing (2004)]. Eye-tracking can record the visual processing of stimuli and make attention mapping possible. Academic studies are unable to accurately assess market share when consumers are exposed to adverts as part of larger,

mixed media campaigns, and nor can consumers' actual brand choices be traced. Tracking-style measures tell us only about the consumer's own perceptions of the advert and nothing about their visual processing. Attitudes to advertising can be assessed through consumer surveys but the missing information is how consumers react to advertising *during* exposure. The research methods proposed will evaluate consumer attitudes and brand associations, for a specific group of targeted adverts, supported by eye-tracking evidence of which components of advertisements consumers actually attend to and process during viewing time. Taking this direction may bring us a little closer to defining and measuring what makes different types of advertising effective.

Chapter 2

Research Techniques

2.1 Eye-tracking Methodology

Combining advertising theory and eye-movement research presents an opportunity to assess attitudinal reactions to adverts along with evidence of visual processes. Early hierarchical models emphasised the importance of 'awareness' in the advertising process [*i.e.* AIDA, St.Elmo Lewis cited in Franzen (1999) and ACCA, Colley (1961)] and later advertising models specifically highlighted attention as a key stage that precedes any other effects [*i.e.* McGuire (1978)]. Although implicit memory theories may propose that overt attention is not necessary for brand associations to be formed [Heath (1999b)], in the case of print advertising attention is normally required more than TV advertising, for example.

Eye-movement analysis supports the investigation of patterns of attention on visual stimuli. Henderson & Hollingworth (1999) describe an early eye-movement study of scene perception which showed that viewers concentrated on people in the scene rather than the background regions [Buswell (1935)]. This study provided evidence that explicit attention patterns could be identified using eye-tracking as a research tool. Buswell also demonstrated variance in the total fixation time spent on different areas within a picture. Henderson & Hollingworth (1999) reviewed scene viewing research in depth and concluded that overall the first few fixations are controlled by visual features of the scene and the scene concept, but as viewing advances, fixations become clustered on regions that are informative (visually or semantically). Even if a consumer is not immediately drawn to an area based on its meaning, they may spend more time there when it is encountered "if it is more semantically informative".

It is generally accepted that fixations are directly related to attention and indicate where meaningful areas lie [Santella & DeCarlo (2004)]. Counting the number of fixations and calculating total fixation durations for specific target areas are commonly used for this purpose. Research including that of Christianson, Loftus, Hoffman & Loftus (1991) supports the use of gaze duration as an indicator of attention for visual stimuli [Rosbergen et al. (1997)]. Starr, Kambe, Miller & Rayner (2002) propose studying which areas readers look at and how long they spend there can indicate what kind of processing occurs during the comprehension of textual stimuli.

Most eye-tracking equipment models use infrared cameras which illuminate the eye and use pupil and corneal reflections to record activity across a scene. Generally, this technique is used for investigation on static images, although some research organisations *e.g.* Verify International (Netherlands) have begun to use eye-tracking techniques on moving images, in this case to evaluate TV advertising.

Various types of eye-tracker unit exist and are used in many different areas of research. ASL (Applied Science Laboratories) for example, has designed an eye-tracker to record eye-movements during sporting activities and many studies have been conducted where drivers' eye-movements have been investigated under various conditions.[2] The eye-tracking unit used in this research (ASL Model 504) is appropriate where a stimulus is presented on a

[2] *e.g.* Nawrot (2001).

single surface, and head-mounted equipment is not required or suitable for a particular scenario (for example, when creating as 'natural' an environment as possible is important). With these units the subject can rest their head in a stable position and still be able to use a keyboard to input responses.

Eye-tracking systems allow the horizontal and vertical co-ordinates of eye-positions to be recorded across time for a specific scene. Using these raw data points, clusters of interest can be separated from saccades to form fixations. These meaningful 'chunks' can be plotted over a stimulus, or a scan path can be created by joining these points together, indicating saccadic movements. There are various spatial and temporal techniques that can be used for such an exercise. Examples of spatial, velocity-based algorithms include Hidden Markov Model fixation identification (I-HMM) and Velocity-Threshold fixation identification (I-VT) [Salvucci & Goldberg (2000)]. The chosen technique here was the Velocity-Threshold method. The velocity-threshold determines within how many degrees per second eye-movements need to be in order to be part of a fixation. This parameter may vary depending on the data to be analysed (*e.g.* in relation to the sampling rate). In this study, the process of creating fixation files was based on values corresponding to a VT of approximately 10˚/sec (further details are provided under Data Analysis in the next chapter).

Measuring attention across a visual stimulus can indicate what viewers are processing and potentially at what level. There is a growing selection of studies which have begun to explore visual processing and the cognitive processing of advertising together. During eye-tracking experiments where specific

instructions are given or a specific task is in play it is possible to monitor the direct effect of these variables on attention patterns. Instructing subjects to carry out such a task can affect their motivation to process the stimuli [Rosbergen et al. (1997)]. Rayner, Rotello, Stewart, Keir & Duffy (2001) asked two groups of subjects to view a set of advertisements with a different, specific task in mind. Each group was told to imagine they were interested in buying a particular product and this produced two sets of eye-movement patterns where the focus on the components of adverts in their specified product category was different to fixations made on the areas of unrelated ads. Rayner et al. (2001) found that on exposure to print advertisements, subjects generally spent more time viewing text than pictorial ad elements, although they spent more time looking at the type of advertisement they had been instructed to pay special attention to at the start of the experiment (car adverts or skin-care adverts).

From another perspective, altering the layout of an advertisement can also show variations in eye-movements and even detect different types of consumer in terms of the attention patterns they exhibit. Rosbergen et al. (1997) created 4 different versions of a shampoo advert for an existing brand. They varied several of the elements shared by each advert, including the size, position and colour of the 'pictorial', 'pack shot' and 'headline'. As well as identifying a dominant gaze sequence (1-'headline' and/or 2-'pictorial', 3-'pack shot' and 4-'body text'), they classified 3 segments of consumers with distinguishable characteristics and whose patterns of attention were qualitatively different. These were described as Scanning, Initial Attention and Sustained Attention. The characteristics of each type of consumer could then be related to their eye-

movement priorities. For example, the Scanning segment of consumers perceived shampoo to be a product that is relevant although low-risk (*i.e.* this purchase decision is of relatively low importance), and corresponding to this, they displayed a limited amount of attention, on 'pictorial' and 'headline' only. Brand recall also differed across the 3 groups. Attention paid to ad elements of varying size and position altered with each consumer segment, and Rosbergen et al. concluded that by identifying these different types of consumers, the effects of physical advertisement properties on gaze durations could be better understood. Eye-movement methods such as these could become crucial factors in strategic pre-testing research.

Wedel & Pieters (2000) studied the effect of fixations across print adverts on memory of the brand. Fixation frequencies for the 'brand', 'pictorial' and 'text', and the accuracy and latency of brand memory for 88 consumers across 65 adverts, were analysed and an attention and memory model was developed. It became apparent from the results that fixations on the 'pictorial' and 'brand' promoted accurate brand memory. Pieters & Warlop (1999) found that eye-movements altered with different levels of time pressure and task motivation. For example, subjects in a high-motivation condition (told beforehand that their evaluation of brands shown to them was highly valued and that they would be able to choose from a selection of brands of shampoo as a reward for their participation) skipped more of the pictorial elements, but skipped less of the brand names (this information was filtered less). Increased time pressure (shorter duration of exposure) corresponded to a decrease in average fixation

durations. Therefore the physical exploration of the brands was directly affected by the situations in which they were viewed.

The nature of some media channels means consumers will potentially view adverts multiple times, and the effects of frequency of exposure have been explored using eye-tracking technology. The results of Pieters, Rosbergen & Hartog (1996) support the 3 exposure hypothesis of Krugman (1972). Briefly, 1st exposure = identification, 2nd exposure = evaluation, 3rd exposure = recognition reaction. The 2nd exposure is the most important, as here the largest differences in the focus of attention occurred (second exposure counts: SEC). The results also suggest that repetition leads to an overall decrease in attention (motivation effects disappear after 2 exposures).

This type of investigative method can also highlight individual differences in advert exploration. The research conducted by Rosbergen et al. (1997) (see above) suggested that 3 segments of consumers each had qualitatively different patterns of attention. These differences in segments correspond to differences in involvement, brand attitude and ad recall. However, an additional point highlighted here is the influence of certain characteristics in some consumers that may make them more task-involved and therefore pay more attention than others to the target ad. Tolley & Bogart (1994) discussed a 1987 study by the Newspaper Advertising Bureau, which found no 2 people scanned a presented newspaper page the same way, or used the same scanning pattern with different pages, which indicated individual differences may indeed have an influence. The design of some studies has clearly been focused on

using eye-tracking to enhance knowledge of the relationship between visual behaviour and attitudes. When Rayner et al. (2001) investigated print advertisements in particular, they found that attention was not necessarily related to the aspects of adverts subjects said they did and did not like *e.g.* subjects showed they did not like adverts with a lot of text, but subjects in two different conditions spent a high proportion of exposure time (around 70%) focused on the text. The experimenters suggested that the textual elements required more fixations than pictorial elements to encode the same amount of information.

On its own, eye-tracking information can show where attention is concentrated, although it is more valuable when combined with additional measures *e.g.* manipulating the context in which adverts are viewed, or conducting subject interviews about the advertisements. The direction of research in this field has been to identify specific regions within an image with analysis focused on the distribution of attention across these defined areas. In this study of advertising effectiveness, eye-tracking methods will reveal the advertising components that capture attention and hold it for longest, subsequently indicating where consumers might be picking up information, or what characteristics could be affecting the formation of attitudes. It is hoped this method can form a basis for assessing if eye-tracking information can provide a worthwhile supplement to traditional advertising exposure response measures.

With any experimental design, the pros and cons of the technology being used should be addressed. Ecological validity is important: an example of this is the

'Ironing Board Study' conducted by Saatchi & Saatchi in the early 1980s. They sought to study the reaction of female consumers to various radio advertisements in a real-life environment. Participants were asked to bring their ironing to the research location under the pretence that they were being asked about a new starch product when in fact, they were later questioned about radio adverts that had been playing in the background. This meant that genuine reactions could be measured. In comparison, eye-tracking methods are fundamentally restrictive due to the environment in which they take place and the respective benefits and flaws of laboratory *vs.* observational research have to be weighed up against one another. In terms of studying advertising effectiveness, observational research could provide real insights into consumer responses to advertising in a real-life environment, but these would not be measurable findings and it would be virtually impossible to take into account the range of extraneous variables on these reactions *e.g.* the placing of the advertisements, the context in which exposure occurred, the frequency of exposure. This type of research would be limited to case-study style reporting. As eye-tracking takes place in laboratory conditions, using equipment which restricts head movement and with elements of forced attention, it cannot be compared to the actual conditions in which consumers are exposed to advertising. It is these controlled aspects, though, which make the findings measurable while limiting the influence of extraneous factors.

2.2 Questionnaire Methodology

Questionnaires are a direct way of measuring responses to any kind of issue. They can comprise many types of question format, but usually require some

kind of rational response. Questionnaires are simply one of many possible methods of gathering data for a particular research design, and are often used in situations where a reasonably large number of respondents is required, as the questions can be filled in by the participants themselves (where adequate instruction is provided) rather than accessing this data using a more time-consuming method such as interview techniques.

Questionnaires are able to capture quantitative data best, but in some situations can also be used to collect qualitative responses, by using open questions for example. When attempting to evaluate advertising many companies design and apply such questions as part of consumer focus groups, in which an advert (or set of ads) is reviewed by a sample of the target audience. This often makes up part of the pre-testing stage of research (prior to a campaign being run). Closed questions require less time, are easy to process and useful for testing specific hypotheses, but open questions can allow the participant freedom in their answers and are useful for assessing areas such as awareness [Oppenheim (2001)].

Making use of different question types, straightforward demographic data can be collected using questionnaire surveys, as well as more complex information such as attitude data. In the past, questionnaire methods have been used to investigate advertising effectiveness through assessing consumer attitudes and awareness. This relates to the bigger issue of attitudes and perceptions as discussed in Chapter 1. Traditional tracking research in particular was designed

to measure consumer attitudes, attention and awareness of advertising and brands.

Oppenheim outlines the use of attitude scaling in terms of the format of the questions used to collect this type of data. Commonly, attitude statements are presented and the respondent is asked to what extent they agree or disagree *e.g.* from 0-10 on a Likert scale. Alternatively, there may be multiple choice answers which represent the range of possible attitudes *e.g.* 'strongly agree', 'agree', 'disagree', 'strongly disagree' and these can then be scored by the researcher (also using Likert methods). As part of some research projects, published scales may be used. These are sets of attitude statements with corresponding scales that have been selected from a wider range, on the basis of statistical testing. The researcher can then be more confident that the data is a true representation of the attitudes they set out to measure. An example of this is Mittal's scale of product involvement [Mittal (1989)], explained in the next chapter.

As with all research techniques, there are some downsides to using questionnaires. Using questionnaires can limit the range of data collected as the questions are usually designed to be specific and may not capture some other potential influence. They can provide a large amount of subject data but cannot always measure the *reasoning* behind the responses. Also, questionnaire research is a method of data collection that relies on the respondent being honest. Dishonesty may be more likely in situations where the respondent wishes to project a positive view of themselves or has some

motivation to answer in a certain way *e.g.* if a particular outcome will be rewarded.

However, questionnaires can be a means to gathering data quickly, and the results can be analysed in a fairly straightforward way, especially if closed questions are used. To avoid the 'boredom factor' *i.e.* participants losing interest and concentration after a long period of time, great number of questions or repeated measures, it is important to keep questions simple and clear-cut, easy to understand, and make sure the questionnaire itself can be completed in a reasonable amount of time. It is also important that a questionnaire be unbiased and not designed to lead the respondents in any way in its introduction [Lucas & Britt (1963)].

Although questionnaires can yield valuable data on their own, they are often most effective when used alongside another methods [Gillham (2000)]. In the case of this research thesis, where eye-movement recording will be used alongside extensive questionnaire measures, it will be important to test the efficiency of the methods through pilot experiments. These are outlined in detail in the following chapter.

2.3 Hypotheses

Attention is a fundamental requirement in the process of print advertising exposure, and precedes other effects. Eye-movement research can add a new and edifying level of analysis to advertising effectiveness studies.

Questionnaire methods can quickly and efficiently gather attitudinal consumer responses. It is the combination of these approaches that is central to this research. Questionnaires will provide essential demographics and reactions to the adverts in terms of how positively or negatively they are judged, and eye-tracking will provide information about their visual processing. Breaking down advertisements into key areas of interest has been successful in outputting accurate, precise models of attention [Rayner et al. (2001), Rosbergen et al. (1997), Pieters & Wedel (2004)].

The effects of advertising are multi-faceted and attitude measurements should reflect the many criteria on which an advert and the featured brand can be judged. It is important to consider that historically, memory [Bock & VonRath (1997)] and liking [DuPlessis (1994a), Franzen (1999)] have been intrinsically linked to advertising effectiveness, and these measures will be explored alongside attitudes to the advertising and brand.

Knowing what makes an advert more effective *i.e.* able to form a positive brand impression could help to make the creative and planning process more strategic and make advertising expenditure more efficient. This study aims to provide information about different types of advertising and reactions to advertising that can be predictive of how similar adverts will perform. Past studies have indicated that different advertising genres may be processed in different ways, and eye-movement research has been able to capture some of the advert-specific reactions of consumers. The previously discussed idea of memory as an effectiveness measure has brought to light the issue of recall

and recognition of the brand name misrepresenting customer attitudes to the advertising content and message. High brand recall will not necessarily predict the behavioural effects of an advert. Liking and general positive feelings towards the advert are likely to be more representative of how the customer feels about the brand and in theory, how they might behave when faced with a brand choice. One area of focus will be the inter-relationship between advert and brand attitude and whether these can in fact be separated. These themes are represented in the basic conjectures of this thesis. The primary research hypotheses are as follows:

H1 Differences in types of advertising *i.e.* in the media format, design and performance on attitude measures, will be manifested in attention patterns

H2 Memory of the brand name will not consistently relate to specific eye-movement fixations or attitudinal responses to the advertising

H3 More positive attitudes towards the ad will correlate with a more positive perception of the featured brand

Chapter 3

Methodology

3.1 Equipment and Set-up

Details of the equipment and software used, along with any common aspects of the experimental procedure, are outlined below.

EQUIPMENT

- Interface and Stimulus PCs
- Adjustable chin rest
- 2 m x 2 m projection screen/17˝ desktop computer monitor

(See set-up below)

- ASLModel 504 Remote Eye Tracker[3]
- Saville Model XL1100 Projector

SOFTWARE

- ASL Eyenal and Fixplot software[4]
- Presentation® software (version 0.70)[5]
- Data analysis program (designed using Microsoft Visual Basic editor)[6]
- Microsoft Excel (2000)[7]
- SPSS [8]

[3] See Appendix 2 for equipment diagrams.
[4] Applied Science Laboratories (www.a-s-l.com).
[5] Neurobehavioral Systems (www.neurobs.com).
[6] This program was described by the experimenter but created by an external programmer.
[7] www.microsoft.com.
[8] SPSS version 11.0 (2001) and version 15.0 (2006): SPSS Inc. /LEAD Technologies, Inc. (www.spss.com).

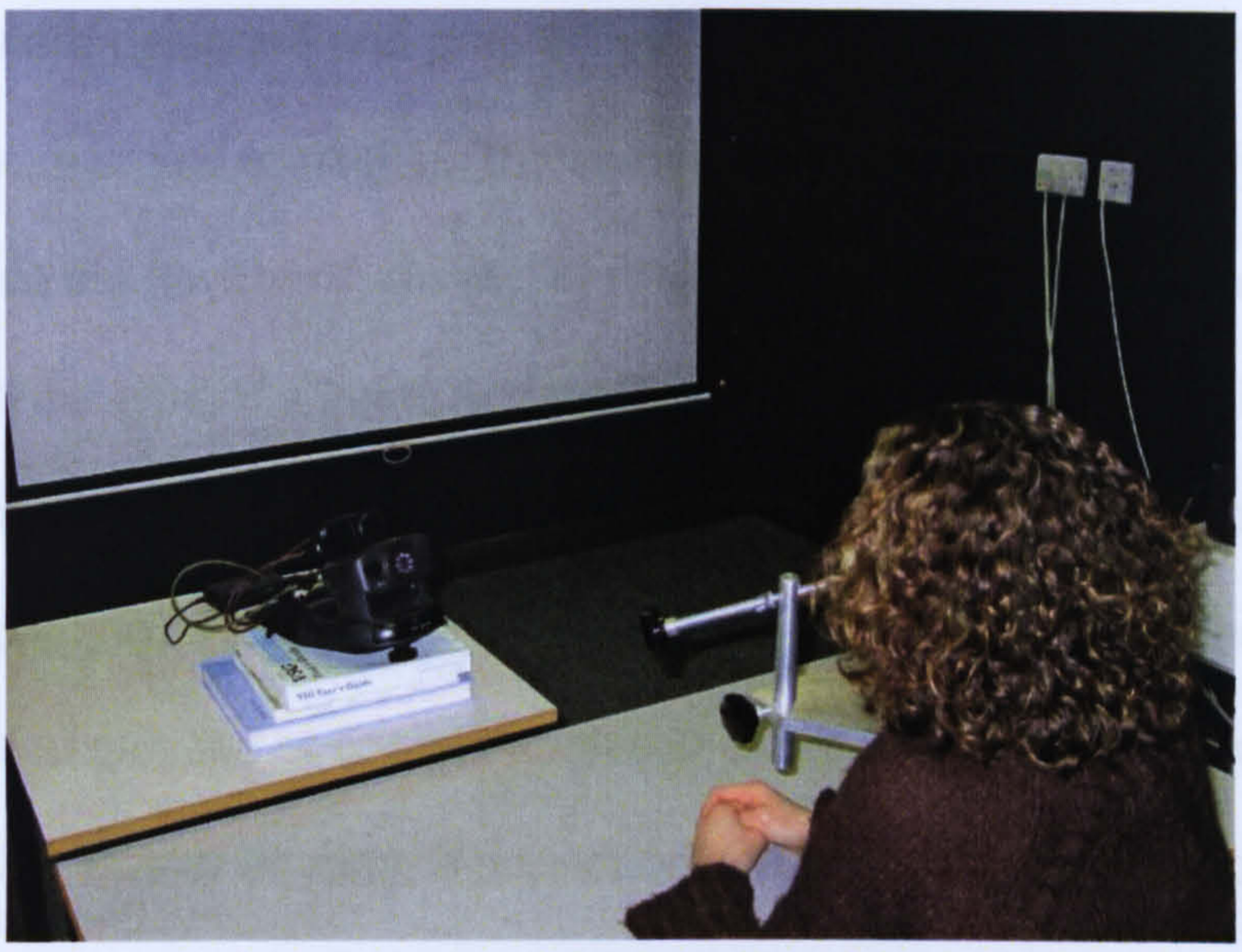

FIG. 9: Example projection screen set-up showing subject position

The ASL Model 504 eye-tracking system uses a remote mounted infrared camera (see below) which illuminates the eye, and the corneal and pupil reflection allow eye-movements across a stationary image to be recorded. This particular type of eye-tracker allows for slight head movement, meaning the subject can rest comfortably in a chin rest (see below) during experiments, therefore making them more at ease and the environment more natural than would be possible when using a head-mounted tracking system.

FIG. 10: Remote Infrared Camera

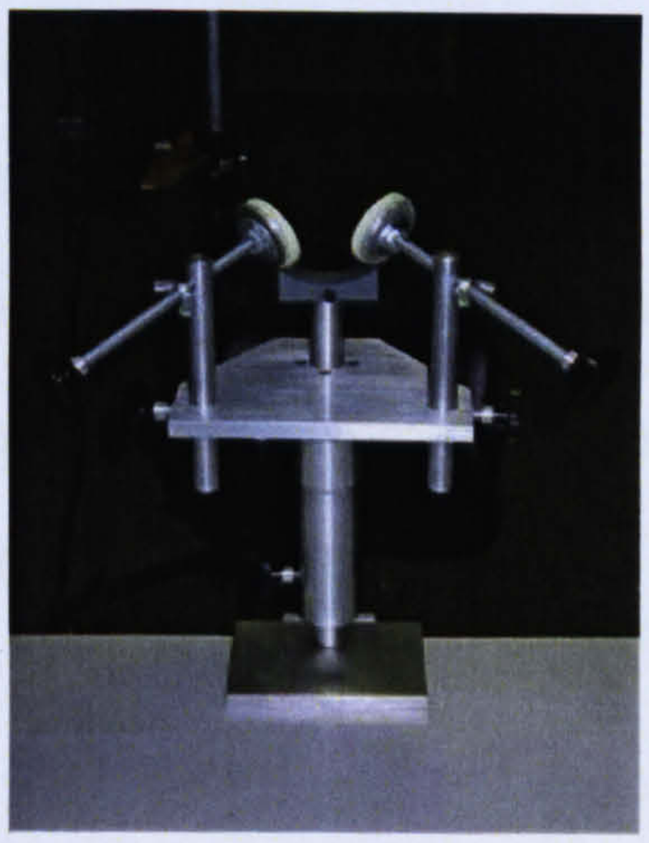

FIG. 11: Adjustable Chin rest

Experiments were designed and programmed using Presentation® software. Participants were asked to position themselves in the chin rest so they could comfortably use the keyboard, clearly view the projection screen or monitor (depending on the type of stimuli) and were able to remain in this position throughout the experiment (minimising head movement for accurate eye-movement recording). All subjects were required to be able to view the images without the aid of glasses or contact lenses in order for their eye-movements to be recorded. For Poster adverts, a projection screen was used to display the images. For Magazine and Direct Marketing (DM) adverts, images were displayed on a PC monitor. Each advert was only displayed once, to eliminate any possible effects of frequency of exposure on attention[9]. Participants were given a briefing on the general research area of the study and informed of what type of adverts they were about to see, but not given specific instructions concerning how to view the images[10]. They were simply asked to view the adverts as they would if they were exposed to them in a 'normal' situation. Obviously the context of the experiment including the briefing and the somewhat inflexible position of the subject meant that ecological validity, as shown in the previously mentioned 'Ironing Board study' was lacking. However, advert judgements were to be analysed in relation to the other adverts presented in the same way. The procedure was also explained, including the calibration process, ratings instructions where appropriate, an explanation of the screens that would appear between adverts, and how to move between them using the keyboard. Time limits or allowances were made clear.

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[9] See Krugman (1972).
[10] This was deliberate, so as not to introduce any particular motivational factors.

Eye calibration was carried out on each participant whereby subjects fixated on 9 points on a calibration screen (see FIG.12, below) and the corresponding eye-positions were saved (calibration and eye-tracking were carried out on one eye). The Presentation® scenario (specific to each experimental condition) was then run. Fixation screens were used in between images to ensure all subjects scanned from the same (central) starting position. Fixation screens are commonly used in eye-tracking studies for this reason *e.g.* in visual search tasks [see Malhotra, Mannan, Driver & Husain (2004)]. 500 msec blank screens separated all screens from one another. This ensured consistency as well as helping to minimise the effect of having subjects focus on a central point prior to exposure to each image. Instruction screens were used to aid participants with the rating process where appropriate. A grey background colour was used throughout the experiment.

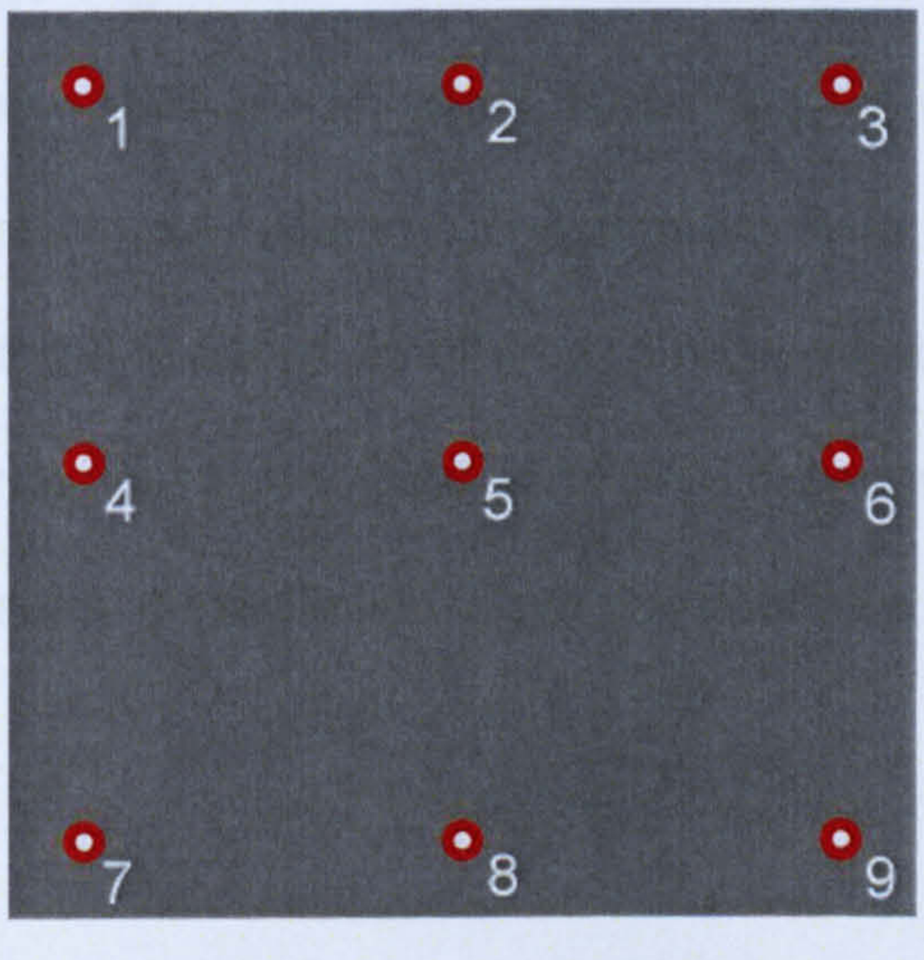

FIG. 12: Calibration Screen

Pupil diameter was not included as a measure of attention or liking in this study. This relates to the fact that pupil dilation can occur due to attention *and*

liking [Rice (1974)], and even in line with mental effort during a cognitive task [Steinhauer (2002)].

In the past it has been thought by some that pupil diameter can indicate how much a stimulus is liked, and also the level of attention given to what is being viewed [Rice (1974)]. However, pupil diameters at certain fixation points may not necessarily provide us with any reliable information about why these areas of attention are particularly significant. It is difficult to directly link a specific point with the pupil diameter recorded at that point as there may actually be a small delay between the fixation and the pupil response. An average pupil diameter measure across each advert could possibly be correlated with liking, for example, to see whether a relationship exists, although there are problems with this too. The pupil will respond to brightness contrast across the adverts, and even if an average brightness measure was taken, the contrast between the different AOIs would still have an effect, meaning it would be difficult to know what factors were in play when pupil diameters were changing. Also, as some eye data is lost due to blinks, or off-image movements, the average pupil diameter value may not be a true indication of pupil response over exposure to an ad. For these reasons, pupil dilation is not considered a practical indicator of attitudes here.

For each presented image, identifiable areas of interest were defined and fixations recorded for each one. Each area of interest (AOI) was designed to be discrete, forming a target-based experiment, whereby each specific item *e.g.* 'brand name' was defined as a separate target (and its co-ordinates recorded)

and attention to each area compared within the adverts and also across adverts (taking into account the type of advertisement *etc.*). This was designed to indicate which areas subjects may be encoding information from. Details of the procedure for each separate experiment are outlined throughout the following sections of this chapter.

3.2 Pilot Studies

3.2.1 Pilot 1

In light of the complex nature of measuring advertising effectiveness two pilot studies were carried out to test the planned eye-tracking and questionnaire methods and to highlight logistical considerations. In pilot study 1 a group of 20 volunteers from the University of Newcastle upon Tyne (14 females and 6 males aged 20-25, mean age 21.7; standard deviation 1.42) were exposed to a set of FMCG adverts. Each subject was at least partially responsible for their household's grocery shopping. 20 6 sheet poster adverts for various food products[11] were projected at a distance of approximately 3 m and a height of approximately 1.2 m. The adverts were selected from a range provided by a company affiliated with Lever Fabergé, based on the featured product category. Areas of interest (AOIs) were identified by the experimenter, based on the major areas of information content (textual and pictorial) in each advert *e.g.* 'brand name', 'ad slogan' and 'pack shot'[12]. This allowed a more detailed assessment of what kind of advert content was attracting attention during exposure.

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[11] See Appendix 3 for advert selection.
[12] Here 'brand' refers to the higher order brand name *e.g.* Nestle and 'product' refers to the particular product name *e.g.* Aero. 'Pack shot' refers to the visual display of the product/ packaging within an advertisement.

The adverts were projected one after another with a fixation screen and then a 500 msec blank screen appearing between each one. Subjects were able to view each image with no time limit, and were instructed to rate each one on a scale from 0-9 to indicate their level of overall liking for the advert (0 = extremely dislike, 9 = extremely like). Liking was used here as a measurement of attitude "positivity" towards the adverts. Subjects were asked specifically to indicate liking for the advertisement itself, rather than the actual brand/product featured. Fixation files and fixation sequence files[13] were produced from the eye-tracking data. Scan paths for each subject and advert were also saved. Average values across the subject group for a number of variables were calculated. The total time spent viewing each advert and the total number of fixations made were taken as indicators of the amount of attention given to each advert. Areas of interest were defined based on the major components that most of the ads shared[14]. As the composition of each advert and the advert elements vary, so the size of the areas of interest also differ across the ads.

The overall average liking response was 5.2, with a relatively low standard deviation of 0.75 (min average = 4.1, max average = 6.9, with standard deviation values no higher than 2.3). Subjects may have liked all of the adverts equally, or were not making full use of the range of the rating scale and should be encouraged to do so in future experiments. It is also possible that as all of the adverts were from the same general product group they did not differ

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[13] Eye-movement files contain raw horizontal and vertical positions in eye-tracker units, which were converted into fixation files using Eyenal's default fixation criteria, based on specific time/distance thresholds.

[14] Brand name, Product name, Pack shot, Ad slogan, Ad picture. See Appendix 3.

enough in design style or message. On average across the advert scores, approximately 11.4 fixations were made during viewing, with a standard deviation of 1.66 (min average = 7.8, max average = 14.5, with a maximum standard deviation of 10.8). Viewing times averaged 5.5 seconds with a standard deviation of 1.02 (min average = 3.7, max average = 7.9, with a maximum standard deviation of 5.7). These values indicate that exposure times and subsequently number of fixations did vary between subjects and between stimuli. (See Appendix 1 for descriptive statistics). General indicators from subject scan paths included an overall focus of attention on the advertising slogan and picture and a common eye-movement pattern with initial fixations on the slogan, then the product name and back to the slogan. An example scan path illustrating the slogan-to-product name pattern is shown below.

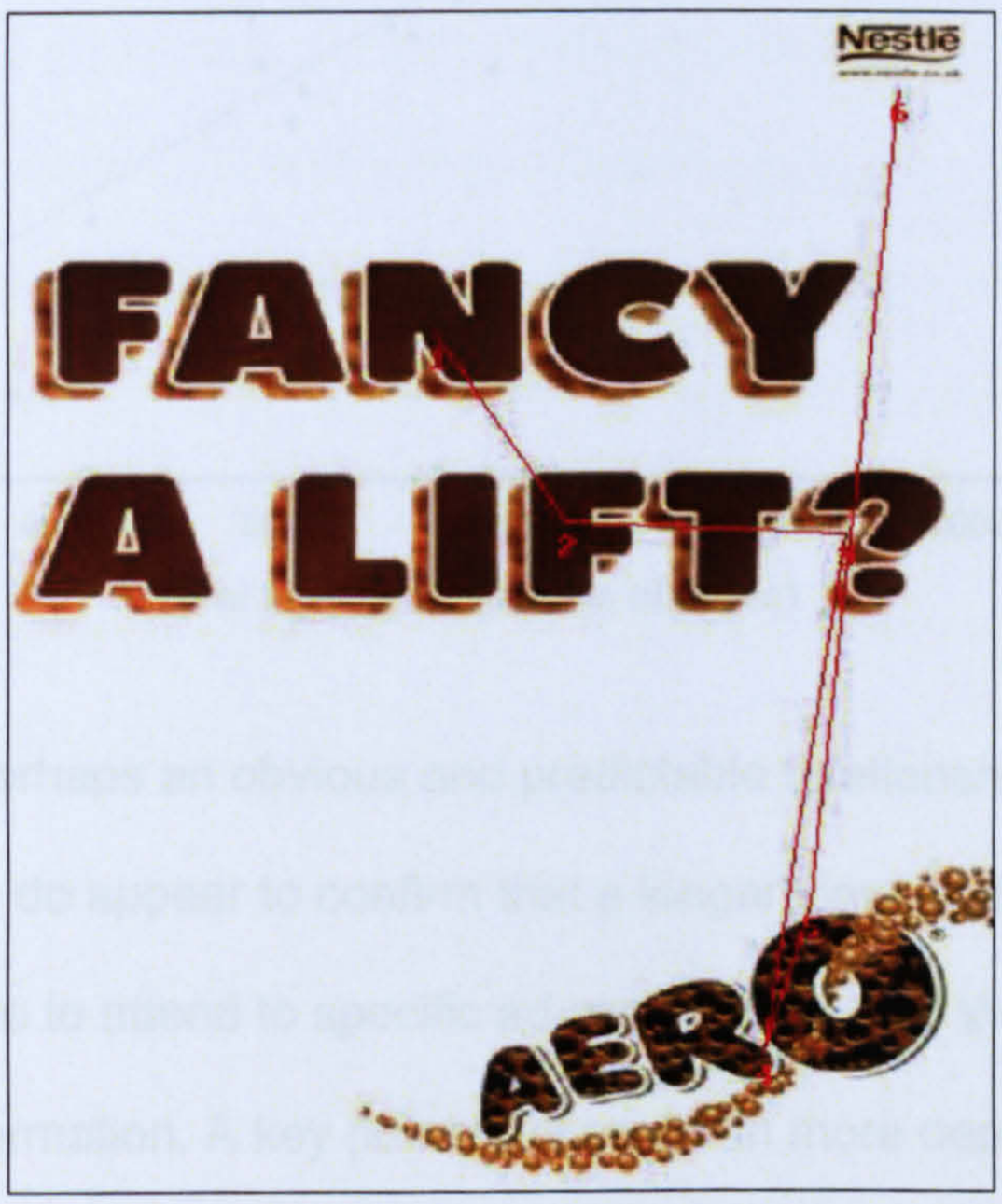
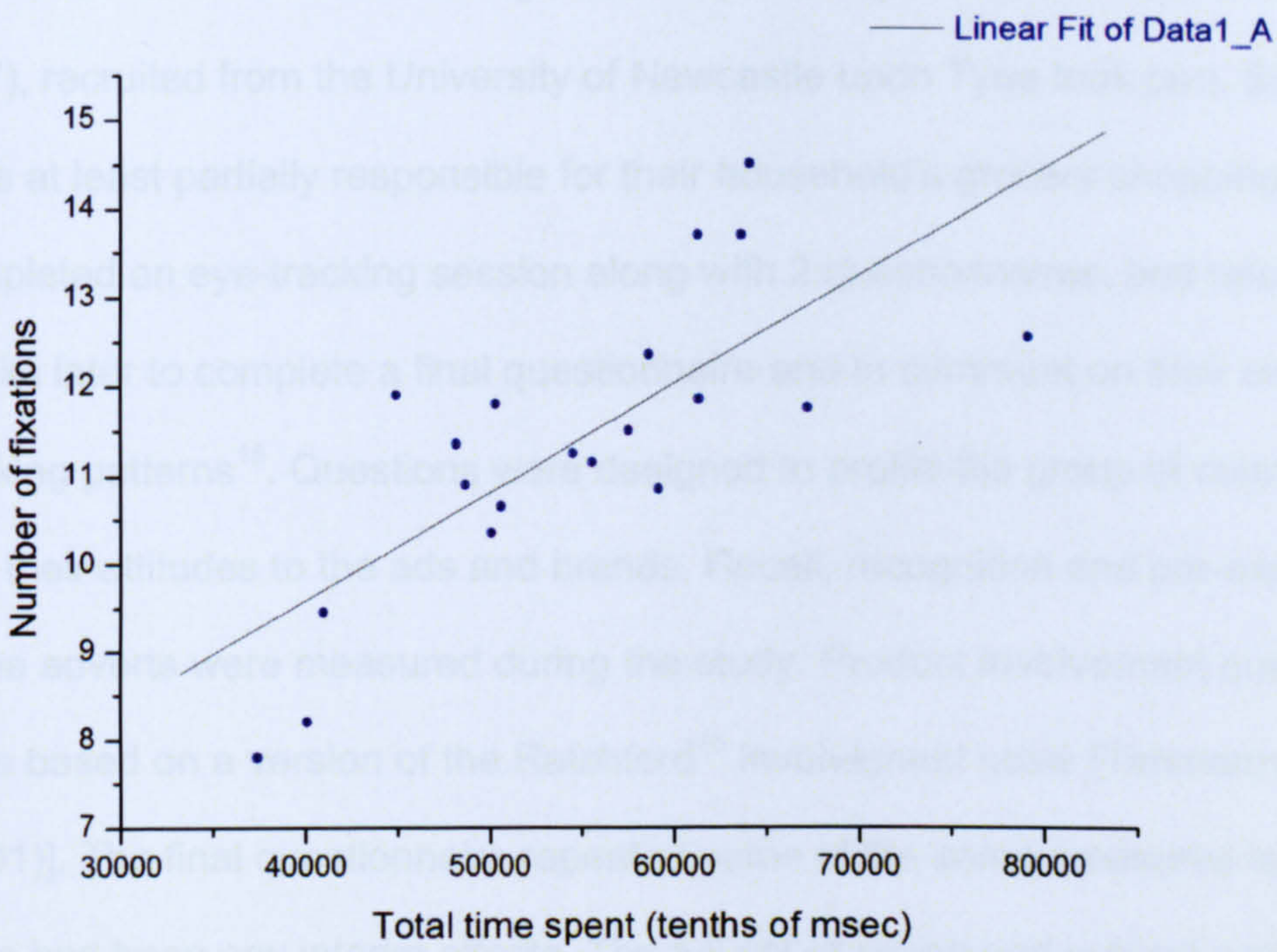


FIG. 13: Example subject scan path illustrating a slogan-to-product name pattern of gaze

NOTE: Numbers represent fixation points; lines represent saccades between these points.

When the averaged scores (across 20 subjects) for each of the 6 adverts containing the main AOIs were correlated (Pearson correlations), there was a strong relationship between the average amount of time spent and the average number of fixations made (.750, significant at the 0.01 level). This correlation is illustrated in the graph below.

GRAPH 1: Scatter plot depicting the significant correlation between average time spent and average number of fixations made



Although this is perhaps an obvious and predictable relationship, these strong correlation values do appear to confirm that a longer viewing time allows subjects more time to attend to specific ad components and therefore possibly process more information. A key point to consider in more depth when analysing these kind of relationships in future, is whether people are actually spending more time on crucial areas of interest, or scanning thoroughly overall,

making a greater number, though general, fixations when the exposure time is longer. In relation to this, the effect of dwell times becomes important as does the overall exposure time.

3.2.2 Pilot 2

The second pilot study elaborated on the measures used in Pilot 1 to test the combination of eye-tracking and questionnaire measures together. Piloting this method aimed to pick up any shortcomings in the experimental procedures. 3 male and 2 female volunteers aged 23-35 (mean age 25.8; standard deviation 5.17), recruited from the University of Newcastle upon Tyne took part. Subjects were at least partially responsible for their household's grocery shopping. They completed an eye-tracking session along with 2 questionnaires, and returned 2 weeks later to complete a final questionnaire and to comment on their own eye-tracking patterns[15]. Questions were designed to profile the group of consumers and their attitudes to the ads and brands. Recall, recognition and pre-exposure to the adverts were measured during the study. Product Involvement questions were based on a version of the Ratchford[16] involvement scale [Timmerman (2001)]. The final questionnaire repeated some of the same measures to see if there had been any interim effects. The full set of advert and subject variables are described in Appendix 2.

25 6 sheet poster adverts for FMCG products were used as stimuli. The adverts were pre-coded into categories which each described a specific

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[15] Specific questions were asked by the experimenter to provide more detailed, subjective information about *why* people focus on certain ad components, and what aspects they may like or dislike about each advert. Subjects were presented with their own scan paths (including fixations numbered in order) for this purpose.
[16] Ratchford (1987).

advertising mechanism. The categories used were based on 7 advertising models, as described by Franzen (1999)[17].This theory is based on the belief that advertisement 'types' can be separated according to their aim, therefore any prominent results from the pilot data could be acknowledged as being linked to a specific type of advert. The 5 most appropriate to the selection of adverts were chosen: persuasion, awareness, relationship, emotion and likeability[18]. This combination was selected as a representation of the kind of communication model the adverts in question would be based on; sales response (customer inclination to direct purchase behaviour) and symbolism (communication of symbolic significance) were thought more appropriate to more complex advertising genres. The adverts were also categorised by product category (laundry, toiletries, groceries, impulse snacks and frozen foods). AOIs were defined within each advertisement for analysis[19] . These were made more simplistic than those used in Pilot 1, although based on the same types of areas.

The images were projected at a distance of approximately 3 m and a height of approximately 1.2 m. This time exposure was limited to 6 seconds (to recreate

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[17] See Chapter 1.

[18] ADVERTISING MODELS (FRANZEN, 1999)
SALES RESPONSE – "advertising aims to give consumers a direct impulse to buy"
PERSUASION – advertising aims to persuade consumers that a brand has several important benefits compared to other brands
RELATIONSHIP/INVOLVEMENT – advertising aims to establish a close relationship between a brand and the consumer
AWARENESS/SALIENCY – advertising aims to make a brand as salient as possible through the use of distinctive types of advertising
EMOTIONS – advertising aims to associate a brand with emotions "which colour usage experience"
LIKEABILITY – advertising aims to increase liking of a brand through the use of adverts which consumers will find particularly appealing
SYMBOLISM – advertising aims to establish associations between a brand and values of importance to the target audience

[19] The ad selection and AOI descriptions can be found in Appendix 3.

limited viewing time of poster advertisements in reality)[20]. Subjects rated each advert on a scale from 0-9 to indicate their level of overall liking of each one (0 = extremely dislike, 9 = extremely like) after the image had been shown. Presentation® automatically recorded a log file of this response and time spent making this decision. Fixation files and fixation sequence files were created using Eyenal. Scan paths for each subject and advert were also saved. Some averages were produced from the raw data.

Some general observations were made about the subject group. All worked full-time in their respective roles, and none had children living at home. Household income appeared to be directly proportionate to the weekly grocery shopping spend (*i.e.* lower income = lower shopping budget and *vice versa*), and general liking of advertisements varied between 1 and 9 on the 10 point scale, showing some differences in personal attitudes.

Out of the 25 adverts, 5 could be identified as being the 'best liked', according to their average liking scores. In terms of the core advertising models the adverts were categorised by, 4 out of these top 5 adverts included likeability (as well as awareness and persuasion) as a main communication aim (all 25 adverts included awareness as a goal, although only 11 of these aimed at likeability).

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[20] Adshel (2003) research suggests poster ads must communicate the message clearly in 6 seconds or less.

TABLE 1: Properties of the 5 'best liked' Ads

	AD	PRODUCT CATEGORY	COMMUNICATION AIMS	LIKING (AVERAGE)	NO. OF FIXATIONS (AVERAGE)
	Oriental Express	Frozen Foods	Awareness Persuasion Likeability	6.4	19.6
	Impulse anti-perspirant	Toiletries	Awareness Persuasion	6.2	16.2
	Potato Waffles	Frozen Foods	Awareness Persuasion Likeability	7.6	20.2
	Impulse body spray	Toiletries	Awareness Likeability Emotion	6.8	18.2
	Branston	Groceries	Awareness Persuasion Likeability	6.8	19.4

Toiletries proved to be the product group with the highest overall level of product involvement, although the top 5 liked adverts were from a mixture of product categories. The overall average liking response was 5.11 with a standard deviation of 1.11 (min average = 3.2, max average = 7.6, maximum standard deviation = 2.5). Again there did not appear to be much use of the extreme ends of the scale. The overall average time taken to make this response was 2.56 seconds, with a standard deviation of 0.61 (min average = 1.5, max average = 3.9, maximum standard deviation = 1.9). These figures imply that subjects were not varying their decision time for each advertisement by a very large amount. The overall average number of fixations made on the

adverts was 18.16, with a standard deviation of 1.97 (min average = 12.6, max average = 20.8, maximum standard deviation = 4.7). This shows that the number of fixations still varied between subjects and adverts, even though the exposure time was fixed. All of these findings are taken as general observations only due to the limited size of the subject group. (See Appendix 1 for descriptive statistics).

The common AOIs most of the adverts shared were 'slogan', 'brand name' and 'product name'. An observation of eye-movement behaviour seemed to illustrate that overall the slogan was fixated on more than most other areas of the advert.

The scan paths below (FIG. 14 & 15) illustrate a shared pattern of attention between 2 subjects, but also a concentration of attention on the slogan areas.

FIG. 14 & 15: Example scan paths illustrating the similar distribution of attention between two subjects

Correlations were not carried out on the data due to the small sample size.

Some measures, including memory measures and brand attitudes, were taken at two different stages of the experiment (during the first session and then 2 weeks later). Initial recall scores following exposure to the adverts, and recognition scores 2 weeks later, appeared to have a strong link in that high recall was generally paired with high recognition scores. No significant conclusions were drawn from the repeated brand attitude measures.

In terms of subject variables, general observations indicated that an increase in age could be related to a decrease in perceived spontaneity.

Subjects showed little awareness of their own scan paths and in general did not recognise them as their own. Subsequently, subjects were able to provide little insight into the reasons for their fixation patterns.

Eye-tracking procedures ran smoothly, although some questionnaire measures proved to be redundant. In the interests of keeping the questionnaire procedure as straightforward and efficient as possible, some sections could be removed. Pre-exposure to the advertising stimuli was not properly controlled for in this experiment. If achievable, using a selection of adverts not yet viewed by the public would be best. Alternatively, making sure adverts/campaigns were non-current where possible would be preferable.

In subsequent experiments, subject groups will be larger and participants will be part of the target audience for FMCG adverts. The application of advertising models to the adverts in order to establish their communication aims was not particularly successful here, as many overlapped and it was difficult to separate the adverts into clearly distinguishable groups. Therefore, if a lesser number of core advertising models that underlie the seven used as a basis here could be specified, the results for these two groups could be more effectively compared. Overall, an important focus will also be to ascertain whether the adverts are working in their own right. Questionnaire measures and eye-movement analysis will be adjusted based on the pilot findings.

3.3 General Methodology

3.3.1 Subject Selection

Subjects were recruited based on the characteristics of the Lever Fabergé primary target audience for FMCG products and advertising ('housewives'). The main characteristics representing this consumer group were outlined and the subsequent criteria are shown below:

- Female
- Aged 25-50
- Mainly or jointly responsible for the household shopping
- Mainly buy branded goods (not supermarket's own)

The subjects fall predominantly in the B/C1/C2 socio-economic groups. In terms of the lifestyle of this audience, the subjects could be with or without children living at home, working or not working, promotionally promiscuous (customers who will take up many different promotions) or promotionally

oblivious (regarding the influence of current promotions on purchases), but had to be advertising aware (aware of the presence of advertising in their lifestyles). Subjects were recruited within these parameters to best represent the 'housewife' audience in particular. The table below summarises basic information about the subject groups that were recruited for the 3 main experimental conditions.

TABLE 2: Experimental Subject Groups – Basic Information

	Total number of subjects (female)	Min Age	Max Age	Mean Age
Experiment 1 Subject Group	48	25	52	37
Experiment 2 Subject Group	50	23	52	33
Experiment 3 Subject Group	48	23	52	33

3.3.2 Recruitment Procedure

A large proportion of subjects were University of Newcastle upon Tyne staff recruited by e-mail. The remainder were all females from the North East and Newcastle. As well as e mail advertisement of the study, posters were placed in various university buildings and some participants were friends or relatives of university staff. Each subject was asked if they fulfilled all of the above mentioned criteria before they were accepted for the study. Subjects were given a brief outline of the study and asked to sign up for an eye-tracking session. In this session (lasting approximately 90 minutes), subjects were asked to complete the eye-tracking component of the study along with a set of targeted questionnaire measures. A second session 2 weeks later (lasting approximately 30 minutes) included a set of follow-up questionnaire measures

and the subjects were also asked to comment on their own scan paths.

Subjects were paid £50 on completion of both sessions.

3.3.3 Stimuli

The advertising stimuli were media-specific adverts from major FMCG categories. Sets of advertisements were provided by Lever Fabergé and their associated contacts, and specific product groups were chosen from these (details below). As this study was part of a funded, contract research project, the stimuli used were adverts the sponsor had a particular interest in (although the stimuli used were a mix of Unilever and competitor adverts and the adverts were chosen by the experimenter from the selection provided by the sponsor). The research is based on types of print advertising, chosen as comparable types of advert and in relation to the experimental methods being used. Using advertisements within the print medium also increased the likelihood of the adverts being processed at a similar level of involvement. Print adverts are considered comparatively high-involvement compared to TV adverts, for example [Krugman (1998)]. As discussed in Chapter 1, previous research has suggested that print stimuli are processed by the left-brain whereas TV is a right-brain function and therefore fundamentally low-involvement [Krugman (1977)]. Whereas low-involvement processing uses implicit memory and stores information as sensory associations, information processed by the left hemisphere is more likely to be stored 'rationally' *i.e.* we interpret the advertising then store this information which may be recalled at the time of brand choice. However, both interpretations and associations can be retrieved at this point in time and subsequently affect purchase behaviour. It was

therefore important in this research to include measures which assessed direct judgements or responses to the adverts *i.e.* attitudes towards them, as well as the type of associations the adverts created relating to the brand. This suggests what kind of impact each advert would have in situations where high-involvement processing occurs (fairly frequently for print ads) as well as what kind of associations may be formed if the information was stored in this way. This also provides a simple and direct assessment of the ultimate impression of the brand an advert creates.

The specific channels investigated were Poster Advertisements (6 sheet outdoor adverts), Magazine Advertisements (single page A4 magazine adverts) and Direct Marketing (DM: advertising delivered to consumers through their door at home). The same procedure was carried out across these conditions to create an opportunity to assess how different types of advertisement perform in different media formats/contexts.

All adverts used in the 3 experimental conditions were categorised across several dimensions so the results could be compared for these groups. The pilot studies suggested that most adverts display more than one of the 7 advertising framework models proposed by Franzen (1999). It was therefore decided that for the main experiments, adverts should be categorised by a fewer number of definitions, in order for their performance to be more clearly compared. There are several consideration sets regarding advertising message tone, two of these being informational/transformational and emotional/rational [discussed in Loef, Antonides & FredVanRaaij (2001)]. The informational/

transformational definitions were chosen, as the emotional/rational distinctions seemed to be more ambiguous. There are clear differences between informational and transformational types of ad. Informational adverts provide factual and relevant brand information in a logical way, enabling consumers to make a confident brand assessment following ad exposure. Transformational adverts associate the brand experience with a set of psychological characteristics specifically linked to the brand through the use of advertising [Puto & Wells (1984)].

For each experiment, the set of adverts was categorised by a panel of between 15-20 females as informational or transformational in terms of advertising message. These volunteers were not subjects in any of the subsequent 3 experimental conditions. The majority fell within the 25-50 age range and were at least partly responsible for their household shopping (see below for subject information).

TABLE 3: Informational/Transformational Scorers - Subject Information

	Total number of subjects (female)	Min Age	Max Age	Mean Age
Experiment 1 subject set	20	26	53	41
Experiment 2 subject set	15	22	38	27
Experiment 3 subject set	15	23	53	36

The scale used measured 'Informational and Transformational Ad Content' [Puto & Wells (1984), taken from the Handbook of Marketing Scales]. This existing scale was chosen as a reliable method of segmenting advertisements

into type of message style. Although research has indicated that adverts frequently show characteristics of both styles [O'Dea & Kulchitsky (2001)], it is possible for the overall message style to be coded as one or the other [Laskey, Day & Crask (1989)]. The scale consists of 23 items with which subjects agreed/disagreed on a 0-6 point scale for each advert[21]. Due to their phrasing, some of the items were reverse-marked. Some terms were altered slightly to make the items appropriate to the adverts being used as stimuli. Scores across the 8 informational items and 13 transformational items were averaged for each ad[22].

Adverts were also pre-coded into product category (toiletries, laundry, groceries or impulse snacks) and featured a mixture of Unilever and competitor brands. As far as possible, none of the adverts used were current (although the stimuli were 'real' advertisements). For the poster and magazine stimuli groups, the number of adverts was chosen by trying to provide a range of adverts from each of the 4 product categories, and an overall number that could be ranked with the top and bottom 5 being separated by at least twice as many ads. The selection of DM advertisements was kept smaller as each piece contained several pages of information.

Areas of interest (AOIs) were identified in each advert post-experiment for analysis purposes. These comprised the major components shared by the adverts *e.g.* 'brand name', 'text', 'picture', 'slogan'. 'Brand' was defined as the

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[21] See Appendix 1.
[22] These scores are discussed in the results chapters and included in Appendix 1.

main feature of each advert[23]. As the AOIs were highlighted for analysis by rectangular boxes, when there were any irregular-shaped areas to be contained, these were highlighted using several boxes and the results combined for the total area. As the areas in each advert were non-uniform, the analysis of results would be based on the proportion of activity in each AOI. Advertisement content and design were also considered as part of the analysis.

3.3.4 The Role of Questionnaires in this Study

Questionnaire measures were used to assess consumer attitudes to the advertising and brands. MacKenzie & Lutz (1989) discussed the role of an 'attitude toward the ad' (A_{Ad}) concept used often in pre-testing environments and thought to relate to how advertising will affect brand attitudes and intention to buy. The attitude to the ad measures used in this research have been based on a similar construct: to assess how positive subject responses to a selection of advertising parameters are and to investigate the link between this and other advertising variables, brand attitudes and visual exploration of the stimuli. Attitude to the ad measures represent a series of separate judgements consumers might make when viewing an advert *i.e.* is the advert relevant, informative, eye-catching, interesting, easy to understand, believable, enjoyable and does it make the consumer more likely to try the brand? Liking has been assessed as a separate variable to these attitude measures. Brand attitude has also been assessed across a set of variables, to explore the subtle

[23] See Appendix 3 for all AOI definitions.

judgements that are being made *i.e.* brand appeal, value for money, quality and ability to meet a consumer's needs[24].

Designed for collecting this type of information, a rank-order system was used, whereby adverts were evaluated in terms of their relative performance on the range of variables. To assess liking, a Likert scale was used. This was scored on a 10 point scale. Other questions such as reason for purchase were multiple-choice and some data was collected through open questions. Multiple Choice Questions (MCQ), although criticised by some regarding how each respondent may interpret the question and options, are a quick method of collecting data which is subsequently easy to process. Open questions, although more time consuming, are more appropriate in certain cases as they allow the respondent freedom of answer and give the experimenter an opportunity to probe [Oppenheim (2001)]. One measure in particular was based on Heath's concept of brand impressions, in this case featured as a 'thought list' question, designed to allow the subjects to record qualitative information.

Using different question types allowed the measurement of different kinds of data in the most appropriate format and made it as easy as possible for subjects to give an honest and accurate response. The questionnaires contained some sections based on tracking measures, with the aim of improving on previous effectiveness measures and assessing true feelings towards the advertising stimuli[25].

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[24] See Appendix 4 for further background on questionnaire variables.
[25] See Appendix 4 for examples and full details of the questionnaire measures employed.

In general, questionnaire methods were chosen as a relatively uncomplicated way of assessing consumer responses directly and within a limited time frame, and were developed with reference to Oppenheim (2001).

Questionnaire measures were used at 3 different stages. STAGE 1 was carried out before eye-tracking, at the start of Session 1 and included questions on Personal Information, Shopping Habits, Brand Preferences, Attitudes to Advertising in general and Product Involvement[26]. STAGE 2 was carried out following a short break after eye-tracking during Session 1, and was based on assessing Memory (recall of brand name), Impact (strength of first impression), Pre-exposure (previous exposure to the advertising prior to this experiment), Attitudes to the Ad and Attitudes to the Brand, along with Brand Familiarity, Brand Usage and Brand Associations (thoughts or associations the adverts created about the featured brands). STAGE 3 was carried out during Session 2, approximately 2 weeks later. This stage included a re-assessment of Brand Preferences, Recall and Intermediate-exposure to the adverts. In each experiment, Liking ratings were taken for each advert either during eye-tracking or as part of the Stage 2 questionnaire. (The structure of the questionnaires was the same as in Pilot Study 2, although the content was modified as described here).

Where time permitted, subjects were also shown their own scan paths and asked if they recognised them as theirs, if they could identify any particular

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[26] Purchase Decision Involvement (PDI) Mittal (1989): This 4-item measure was used with a 0-10 Likert scale response. The scores were summed and averaged for each product type. This published scale was chosen as there were fewer items to complete than the Ratchford scale used during the pilot stage.

patterns of gaze related to the areas they looked at and the order they looked at them, and if there were any particular reasons for their eye-movement behaviour.

Several weeks after each experiment was completed, the whole subject group was de-briefed. An e-mail was sent to all participants, outlining the specific details of the research project, and containing a brief summary of which adverts performed best on the questionnaire measures. A detailed outline of all of the questionnaire measures can be found in Appendix 4.

3.3.5 Eye-tracking Details

Eye calibration was carried out on each participant. As well as this initial calibration procedure, calibration screens were shown during the presentation of advertisements to ensure that subjects had remained in the same position. This procedure was used during Magazine and DM trials, as these conditions involved the presentation of a larger number of images. Extra calibration screens were shown at regular intervals during the trials. Subjects were asked to focus on the numbered points, and if gaze was shown to be accurate, the trial was continued. If any subject's gaze was shown to have moved position, the whole calibration process was repeated and the trial continued.

Ads were presented one at a time on the screen or computer monitor in front of the subject. Each subject saw the same set of adverts in a different, random

order[27]. At the start and end of each of each scenario, a number of 'dummy' ads were shown. This meant the target adverts appeared in the middle of these stimuli, and allowed participants to become familiar with the experimental protocol before data for the target adverts was recorded. The dummy ads belonged to different product groups to the ones being tested *e.g.* pet food, cleaning products. Presentation® recorded a log file of keyboard responses and time spent on each segment. Eyenal files were automatically created with the eye-movements recorded during exposure to each target image (at a speed of 60 Hz), and various processes were then carried out on this data to produce fixation files (see Data Analysis, below). Scan paths for each subject and advert were also saved when the recording was shown to have been accurate[28]. The SPSS data analysis package was used for all statistical testing. In a small number of cases where calibration was inaccurate, or data was interrupted (for example, reflectance from some other object had interfered with the eye-movement recording), these eye-movement files were not analysed as part of the results set. In experiment 1, 2 sets of eye-movement data were removed due to interference in the eye-tracking recording. In experiments 2 and 3 all eye-movement files were used.

3.3.6 Data Analysis

As the main aim was to study consumer attitudes and eye-movements across different adverts, all measures were analysed in terms of all subjects for each condition. Questionnaire measures were averaged across all subjects in each

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[27] Images were randomised by using the Excel RAND function to create a separate template for each subject's trial.

[28] This was done using Eyenal and Fixplot in order to be able to question subjects about their own eye-movements during Stage 3.

experimental group. Liking scores on a 10 point scale were averaged. Brand recall and Impact scored 1 or 0 and the average of these scores was taken. Pre-exposure and brand usage multiple choice questions were awarded a score relating to the category and then averaged (scores1 to 3 and 1 to 4, with higher numbers representing the 'strongest' category *i.e.* "seen more than once before" or "most prefer to use this brand"). Attitudes to the advert and brand measured on a Likert scale for DM stimuli were averaged. For these variables involving ranked responses *i.e.* attitude to the ad and attitude to the brand variables in experiments 1 & 2, an average rank score for each advert was calculated across subjects. The adverts were studied in terms of the overall rank awarded corresponding to these scores. (A rank-order system was used to collect Poster and Magazine attitude data, as a time-effective method of rating all 32 adverts on the same set of measures). For other multiple choice questions, the category that received the majority of responses across subjects was highlighted.

As well as overall observations of advert performance based on their average scores across subjects, some raw scores were also used during factor analysis and for some correlations based on the identified factors.

Eye-movements were studied in terms of the fixations made on each advert by all subjects in each experimental group. All eye-movement data was converted into fixation files. The data was filtered to exclude any stray activity outside the boundaries of the stimuli. Data was compared point-to-point and based on criteria equating to a VT of approximately 10°/sec, saccadic movements and

clusters of attention (fixations) were identified[29]. Saccades were then removed to leave fixation groups and the average of the data points within each group was taken as the fixation point[30]. This data was then converted from eye-tracker units into pixel values to allow accurate plotting over the images which were scaled to size.

From these fixation files the following data was evaluated:

- Initial fixation points (fixations within the first 1000 msec of viewing time)

  Analysing the first 1000 msec of fixation data further limited any effects of lingering gaze on the central point following the fixation screen.
- Total proportion of attention within each AOI

  This was analysed both in terms of the number of fixations made and the amount of time spent.
- Average fixation duration per AOI

3.4 Experimental Conditions

3.4.1 Overview

3 separate experimental conditions featured 3 different sets of FMCG adverts, each representing a particular advertising channel. Some brands were featured in several different adverts and/or conditions, but each advert was specifically a poster, magazine or direct marketing advertisement design. These 3 groups of print-based advertisements were believed to be consumed at a similar level of processing, as

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[29] These values were chosen to best represent the eye-movements following a visual evaluation of various criteria. Lag functions were used to smooth the data during analysis.
[30] Discrete AOI regions were used to ensure fixation counts were accurate and to allow for peripheral effects.

opposed to other visual media such as TV. However, the difference in media format predisposes differences in design elements, and it was predicted that capturing eye-movements would reveal the ways subjects visually explored the 3 groups of adverts in relation to these differences.

3.4.2 Experiment/Condition 1

3.4.2.1 Subject Demographics

48 female subjects took part, with an age range of 25-52 (mean age 37; standard deviation 7.3). Of these subjects, 48 sets of questionnaire measures were analysed, along with 46 sets of eye-movement data. 22 subjects had children living at home.

TABLE 4: Experiment 1 Subject Information

	Spontaneity	Loyalty	Influence of Promotions	Influence of Children*	Notice of Advertising	Liking of Adverts	Influence of Adverts
Mean	4.3	6.2	5.5	6.0	6.1	5.2	5.3
St Dev	2.2	2.0	2.2	2.8	1.9	1.9	2.1

* Where applicable. Note: scored on a 0-10 scale.

3.4.2.2 Stimuli

32 poster ads[31] were presented as close to actual size (1.8 m x 1.2 m) as possible to mimic real-life exposure (see Appendix 3 for a diagram of 6 sheet poster advert standard dimensions).

[31] See Appendix 3 for the set of poster advertisements used.

3.4.2.3 Procedure Specifics

The poster adverts were projected onto a large white screen on the wall directly in front of the subject. These adverts were approximately 1.45 m in height and at a distance of 2.8 m. For each participant the same set of adverts was shown in a different, random order. Subjects were asked to rate each advert after 6 seconds of exposure (approximately 6000 msec of viewing time). Adshel (2003) research shows poster ads must be able to clearly convey the message within this limited amount of viewing time. Subjects assigned a rating to indicate their overall liking of the advert on a 10 point scale (higher numbers indicated increased liking). They were prompted to do so by an instruction screen that appeared after each ad. By hitting a number key, the subject moved on to the next fixation screen. 3 dummy ads at either end of the scenario were used.

3.4.3 Experiment/Condition 2

3.4.3.1 Subject Demographics

50 female subjects took part, with an age range of 23-52 (mean age 33; standard deviation 8.5). Questionnaire measures and eye-movement files from all 50 subjects were analysed. 16 of these subjects had children living at home.

TABLE 5: Experiment 2 Subject Information

	Spontaneity	Loyalty	Influence of Promotions	Influence of Children*	Notice of Advertising	Liking of Adverts	Influence of Adverts
Mean	4.1	6.0	5.9	5.6	6.3	5.2	5.0
St Dev	1.8	2.2	2.4	2.3	2.1	1.7	2.3

* Where applicable. Note: scored on a 0-10 scale.

3.4.3.2 Stimuli

32 magazine ads[32] were presented as close to actual size (A4) as possible and embedded in a 'dummy' magazine, with a front cover, contents page, and a selection of articles from various female-oriented magazines, to mimic real-life exposure. Article topics included beauty, fashion, health and gossip, aimed at a female audience. Pages were displayed one at a time, to prevent editorial pages impacting on eye-movements across each target ad.

3.4.3.3 Procedure Specifics

The magazine pages, including adverts, were shown on a computer monitor at a distance of approximately 62 cm from the subject. The participants were asked to use the 'Enter' key to move between the pages at their own pace. No time restraints were imposed as this type of advertisement would normally be viewed at leisure. As with condition 1, each subject saw the same set of adverts but in a different, random order. At the beginning and end of the sequence of 32 adverts, 3 dummy ads were used. Liking ratings were taken as part of the questionnaire measures, which also included 2 additional questions concerning how the subjects read magazines and whether they normally take notice of the advertising contained.

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[32] See Appendix 3 for the set of magazine advertisements used.

3.4.4 Experiment/Condition 3

3.4.4.1 Subject Demographics

48 subjects took part, with an age range of 23-52 (mean age 33; standard deviation 8.3). 48 sets of questionnaires and eye-movement files were analysed. 9 subjects had children living at home.

TABLE 6: Experiment 3 Subject Information

	Spontaneity	Loyalty	Influence of Promotions	Influence of Children*	Notice of Advertising	Liking of Adverts	Influence of Adverts
Mean	4.4	6.0	6.2	5.2	6.3	5.4	5.4
St Dev	1.9	2.4	2.4	2.9	2.0	2.6	1.8

* Where applicable. Note: scored on a 0-10 scale.

3.4.4.2 Stimuli

14 pieces of direct marketing[33] were presented as close to their actual sizes (various) as possible, and the components were presented in the general order in which a consumer would see them on receiving the advertising at home *i.e.* front of envelope, back of envelope (where appropriate), first page inside followed by each page in turn, then samples *etc.*

3.4.4.3 Procedure Specifics

The adverts were shown on a computer monitor at a distance of approximately 62 cm from the subject. As well as fixation screens, an information screen appeared after each piece of advertising, to indicate to subjects that they had seen all of the components of one advert and were about to view the next on

[33] See Appendix 3 for the set of DM advertisements used.

pressing 'Enter'. This ensured that subjects were able to discriminate between the pages belonging to each piece of direct marketing. Again, each subject was shown the same set of adverts in full, in a different, random order. Participants were asked to use the 'Enter' key to move between the pages at their own pace. No time restrictions were applied as this type of advertising would normally be viewed at the consumer's own pace at home. At the beginning of the sequence of 14 adverts, 1 dummy advert was used (made up of several pages). Liking ratings were taken during the stage 2 questionnaire measures along with additional questions for each ad, concerning action on receiving DM, general interest in types of DM information and types of product category, general frequency of opening DM and the importance of certain design features. Subjects were also asked if there were any particular direct marketing categories/areas they would be most or least likely to open. For Likert scales used to measure attitudes, the numbers were not marked on the questionnaire used by the subjects, to encourage as precise a response as possible

3.5 Results Outline

The results for each of the 3 experimental conditions will be presented around several specific areas of relevance:

- Customer Data (*i.e.* shopping habits, purchase behaviour and attitudes)
- Product Data (*i.e.* purchase decision involvement, consistency and reasons)
- Ad Data (*i.e.* attitudes to the ad and brand)
- Eye-Tracking Data (*i.e.* attention patterns)

Underlying factors in attitude judgements and the statistical significance of the relationship between variables will also be explored and the analysis of results begins with a data reduction process. The adverts will also be studied in terms of their overall performance on attitude to the ad measures, to represent the 'positivity' of consumer reactions towards them. Adverts will be compared according to how well or poorly they were received by the participants representing the FMCG target audience. How the adverts performed on the other measures will be discussed in relation to where they have been placed overall. For each measure, an average score was calculated across participants (rather than across ads). These scores denote advertisement performance in different areas across a group of consumers within the target audience and provide an overall view of advert performance.

Recall of the brand name was tested using adverts with blanked out brand information, during both sessions (initial questionnaire/eye-tracking session and 2 weeks later). When a Pearson's correlation was carried out on the average ad recall scores from the first and second sessions, for each experimental condition, the correlation values (significant at the 0.01 level) were .920, .933 and .917 respectively. Recall of the brand had not significantly changed over time and subsequently, the recall figures used in the results section are those measured in the first session, following first exposure to the adverts.

Experiments (conditions) 2 and 3 included extra measures of how consumers interact with magazine and DM stimuli in particular. Unlike poster adverts, consumers are in control of how and when they are exposed to this type of

advertising content, and the results for these specific questions are contained in the relevant sections. Following this analysis are a summary of findings including a comparison of data across conditions (media channels), an in-depth discussion and related assumptions. Finally, conclusions are made about the outcome of this research and the potential direction of future research in this field.

Chapter 4

Data Reduction

4.1 Introduction

During experimental procedures (experiments 1 and 2), subjects assigned attitude scores based on a 32-point rank scale. This ranking system meant that the selection of appropriate analysis methods would be limited to some extent. In hindsight, normative ratings on a smaller advert set could have avoided this restriction; however it was true that in assigning the rank scores, a wide ranking scale was used where none of the numbers could be used more than once, which could be said to be equivalent to a broad Likert scale. In experiment 3, due to the smaller selection of adverts, a 0-10 point Likert scale was used.

Attitude to the ad measures represent a series of separate judgements consumers might make when viewing an advert *i.e.* is the advert relevant, informative, eye-catching, interesting, easy to understand, believable, enjoyable and does it make the consumer more likely to try the brand? Brand attitude was assessed to explore the subtle judgements that are being made *i.e.* brand appeal, value for money, quality and ability to meet a consumer's needs. These scales represent the type of questions consumers are asked in some tracking research carried out by advertising agencies. An initial analysis based on scores for each advert averaged across subject sets showed high inter-correlation in some of these areas. Factor analysis was used to identify the judgements underlying these relationships.

4.2 Principle Components Analysis

4.2.1 Analysis Methods

A range of adverts from each experimental advert set was selected and factor analysis carried out where underlying relationships were sought to be identified. This analysis was based on the raw scores from the subjects on each variable for each advert (attitude to the ad variables and attitude to the brand variables) [34]. Experiment 1 data comprised raw scores from 48 subjects, experiment 2 scores from 50 subjects and experiment 3 scores from 48 subjects. A selection of example adverts for data analysis were chosen with no specific criteria in mind – arbitrary numbers 1,2,3,9,10,11,17,18,19,25,26,27 were used and the adverts corresponding to these numbers in the original stimuli sets were selected (*i.e.* 12 example adverts were selected from the original experiment 1 and 2 advert sets). As the experiment 3 advert set was smaller (14 adverts compared to 32 in the first 2 conditions), the numbers 1,2,3,5,6,7,11,12,13 were used, providing 9 example adverts to work with. This method of selection meant that the example adverts ranged across a different number of product categories for each data set. In all, 33 analyses were carried out on example adverts.

First, a principle components analysis with a varimax rotation was carried out on the raw scores for each example set of adverts using SPSS software[35]. Some consistency was found across the advert examples which suggested that

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[34] Attitude to the ad & attitude to the brand scores for poster and magazine data: low value = high rank. Attitude to the ad & attitude to the brand scores for DM data: high value = high score.
[35] SPSS version 11.0 (2001) and version 15.0 (2006): SPSS Inc. /LEAD Technologies, Inc. (www.spss.com).

a number of underlying factors could explain the loadings across groups of variables and these common themes were explored.

4.2.2 Characteristics of the Underlying Factors

4.2.2.1 Ad Variables

The analyses described above showed that between 1 and 3 components were the basis for judgements on attitude to the ad variables, but more importantly it revealed 3 pairs of variables that repeatedly occurred within the same factor, across the example advert data: Enjoyable and More likely to try, Informative and Easy to Understand, Eye-catching and Interesting. The factor combining enjoyable and more likely try represents a judgement around Positive Feelings and Intentions *i.e.* is exposure to the advert a pleasurable experience and does it create positive attitudes towards the brand? The factor combining informative and easy to understand represents a judgement base on Communication *i.e.* is the advert content useful and does it have a clear message? The factor combining eye-catching and interesting represents a judgement based on Visual Impact *i.e.* does the advert stand out and capture attention? A handful of the example adverts have been selected from each experiment and the results presented below. These advertisements show high loadings[36] on the 3 factors identified above. For the full set of factor analysis tables please see Appendix 1.

The adverts below serve as an illustration of the 3 factors outlined above.

These 3 pairs of variables have high loadings within the same component in a

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[36] High loadings are generally considered to be above .6 and low loadings below .4.

high number of the example adverts studied. Other variables such as 'relevance' and 'believable' are also seen to have high loadings with the same components as these common pairs in some cases, but not in such a consistent pattern.

TABLE 7: Experiment 1 Ad Variables - Principle Component Factor Loadings

	Positive Feelings & Intentions	Communication	Visual Impact
Example Ad 1 (Ad 11)			
Relevance			
Informative		.677	
Eye-catching			.747
Interesting			.754
Easy to Understand		.854	
Believable			
Enjoyable	.774		
More likely to try brand	.842		
Example Ad 2 (Ad 25)			
Relevance			
Informative		.861	
Eye-catching			.673
Interesting			.679
Easy to Understand		.759	
Believable			
Enjoyable	.618		
More likely to try brand	.840		

N = 48

TABLE 8: Experiment 2 Ad Variables - Principle Component Factor Loadings

	Positive Feelings & Intentions	Communication	Visual Impact
Example Ad 1 (Ad 10)			
Relevance			
Informative		.798	
Eye-catching			.493
Interesting			.774
Easy to Understand		.697	
Believable			
Enjoyable	.784		
More likely to try brand	.877		
Example Ad 2 (Ad 27)			
Relevance			
Informative		.627	
Eye-catching			.841
Interesting			.807
Easy to Understand		.689	
Believable			
Enjoyable	.823		
More likely to try brand	.613		

N = 50

TABLE 9: Experiment 3 Ad Variables - Principle Component Factor Loadings

	Positive Feelings & Intentions	Communication	Visual Impact
Example Ad 1 (Ad 2)			
Relevance			
Informative		.760	
Eye-catching			.902
Interesting			.830
Easy to Understand		.826	
Believable			
Enjoyable	.860		
More likely to try brand	.719		
Example Ad 2 (Ad 11)			
Relevance			
Informative		.539	
Eye-catching			.914
Interesting			.700
Easy to Understand		.911	
Believable			
Enjoyable	.910		
More likely to try brand	.675		

N = 48

The original 8 attitude to the ad measures have now been condensed into 3 factors and these will be carried forward for data analysis. To assess reliability, Cronbach's alpha [Cronbach (1951)] was calculated for these factors across each set of example adverts (these figures can be found in Appendix 1). The same sets of example adverts used for data reduction will be used in the data analysis where appropriate. The new factors can now be used in place of single variables in correlation analysis, adding weight to the findings.

4.2.2.2 Brand Variables

Principle components analysis on the 4 attitude to the brand variables showed in all but one of the example adverts that high loadings of all 4 variables with one factor were evident. The tables below each show the results from 2 example adverts from experiments 1, 2 and 3. The full output with eigenvalues can be found in Appendix 1.

TABLE 10: Experiment 1 Brand Variables - Principle Component Factor Loadings

	Complete Brand Judgement
Example Ad 1 (Ad 11)	
Appeal	.794
Value for money	.809
Quality	.781
Meeting needs	.854
Example Ad2 (Ad 19)	
Appeal	.865
Value for money	.827
Quality	.852
Meeting needs	.865

N = 48

TABLE 11: Experiment 2 Brand Variables - Principle Component Factor Loadings

	Complete Brand Judgement
Example Ad 1 (Ad 3)	
Appeal	.832
Value for money	.698
Quality	.807
Meeting needs	.894
Example Ad 2 (Ad 26)	
Appeal	.772
Value for money	.664
Quality	.739
Meeting needs	.863
N = 50	

TABLE 12: Experiment 3 Brand Variables - Principle Component Factor Loadings

	Complete Brand Judgement
Example Ad 1 (Ad 5)	
Appeal	.952
Value for money	.842
Quality	.924
Meeting needs	.955
Example Ad 2 (Ad 12)	
Appeal	.929
Value for money	.880
Quality	.933
Meeting needs	.927
N = 48	

Brands seem to be assessed based on one underlying factor, manifested by high loadings for all brand variables on this component in the example adverts. Cronbach's alpha scores for this factor were calculated and can be seen in Appendix 1.

4.3 Summary

Obvious patterns emerged from ad and brand judgements when the data was studied across a balanced sample of adverts from each experimental condition. 3 factors underlying ad judgements were identified indicating that adverts are assessed based on positive feelings, communication of the message and visual qualities. The communication factor showed low Cronbach's alpha scores in some cases, but good reliability was shown for the positive feelings factor in particular. The visual impact factor showed some low alphas in the experiment 2 example advert set (see Appendix 1). A preliminary examination of the adverts showing very low alpha scores was not able to produce any apparent pattern to explain these results without more detailed investigation. In some cases the factors showed better reliability in the experiment 3 example set as these results were based on data from Likert scores. One overall judgement of brands was identified with very high reliability across all conditions. Factor scores were calculated on each new factor for all of the example adverts, and these factors will now be used in data analysis wherever relevant to enhance the robustness of the results.

Chapter 5

Experimental Results

5.1 Introduction

Experiment 1 focused on subject attitudes towards and attention to a set of 6 sheet poster adverts. Advertising of this type would normally be displayed in outdoor locations such as bus shelters. Using the questionnaire and eye-tracking procedures outlined in the previous chapter, subjects were asked to view each advert for a pre-determined fixed length of time and to record their responses across a series of questions, including attitude measures, recall and product involvement. A 6 second time limit was set as this represents the average viewing time consumers have to process outdoor advertising *in situ*[37]. Poster advertising is a comparatively simple form of print advertising, in terms of the number of elements and amount of information contained, relating to the fact that consumers are not always able to extend their viewing time due to the environment of exposure and information therefore needs to be able to be processed quickly.

Previously, some research organisations have reported on outdoor advertising in terms of average scores on measures tracked across consumers. Research Services Ltd. (RSL) employs a monitoring process called 'Signpost'. Alan Hodges discussed the methods and outcomes of this resource in an Admap article [Hodges (1993)]. Signpost monitors poster advertising campaigns and feeds the statistics back to agencies for future advertising planning. Measures include how 'visible' *i.e.* recognisable poster campaigns are (on average, 39%), how well-branded the campaigns are (on average, 21% can be associated with the correct brand), and how much appeal and impact they have (the average

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[37] Adshel (2003).

'positive liking' score is 54%). This particular article also mentions that people generally like poster advertising. This could be to do with the placement of this type of advert in situations where the consumer has 'wasted' time to occupy *e.g.* waiting at a bus stop, or because of the eye-catching nature of the designs. As well as average findings, Signpost produces results in areas similar to those being focusing on in this thesis: the effects of particular advertisement elements and also how results differ with product category, but without the additional physical evidence of *how* these poster adverts are being viewed by consumers.

Worldwide outdoor company JCDecaux has also carried out tracking research [McEvoy (2001)] and finds that outdoor media work in two main ways: by achieving an immediate response through high levels of coverage and long-term effects from numerous exposures of the message. Highlighted in these findings are the ability of outdoor advertising to "build positive brand perceptions over a long period of time", and the effectiveness of adverts designed with "a specific, eye-catching visual style". In relevant terms, this suggests the potential importance of a positive brand message and the potential of uncluttered, attractive adverts to capture attention and project such influences onto the consumer.

Experiment 2 focused on subject responses to a set of one sheet magazine adverts. This kind of advertising is featured in magazine publications aimed at particular target audiences, and the adverts would generally appear opposite a page of editorial, although for the purpose of these experiments editorial pages were not included, as this could have potentially affected attention patterns.

A new subject group was used for this condition but the same questionnaire and eye-tracking procedures were used as for the poster adverts, although the adverts were presented on a computer screen rather than being projected. No time limit was set for advert exposure, as in reality consumers are able to control their own exposure to magazine adverts, whereas outdoor adverts are usually seen while on the move. In line with this, magazine advertisements usually contain slightly more detail than poster advertisements, as consumers do have the opportunity to stop and take in more information. This could include more advertisement elements or more text. However, due to this control over exposure, readers can also pass by an advert or spend more time reading editorials than browsing the advertising pages.

Robertson (1993) said that on average television adverts are "more interesting" than magazine adverts, possibly as a lot of creative attention is spent trying to capture target audiences through the medium of TV. Magazine adverts are also treated as a "static item", whereas a TV advert is a 'living ad', something more dynamic. Robertson highlights the way magazine advertising is consumed *i.e.* the reader has control over what they do and don't read, they are able to glance at a headline or central visual element and can decide to turn the page if they wish. In this way it is important for magazine adverts to have impact and catch attention, as well as encompassing enough information to keep the reader hooked. Some studies have also highlighted the possible effect on brand preference of repeated exposure to an advert [D'Souza & Rao (1995)]. TV adverts have a fairly high repetition rate: Magazine adverts can also be

viewed multiple times as magazines often have a readership period of several weeks or even months before they are discarded. Repetition could potentially increase brand awareness or reinforce brand purchase behaviour.

Carter (1999) describes a report that re-evaluated the effectiveness of using print advertising as part of integrated marketing (Take a Fresh Look at Print, FIPP), when a lot of advertisers were concentrating on marketing through 'new media', including TV. Key positive characteristics of print advertising acclaimed in the report included the ability for a print advert to be studied by the consumer for as long as it holds their attention.

Experiment 3 was centred on consumer reactions to direct marketing (DM). The stimuli here were real examples of direct marketing material. This kind of advertising is delivered through the doors of consumers, and often includes incentives to try the brand *e.g.* money-off coupons or a free sample. It is common for this type of marketing to be used when new products are launched, although the brand name can often be a known one. The direct mail examples used in this study included some addressed versions (in these cases with a 'dummy' addressee) and some versions that would be posted through the letterbox but without an address field.

Throughout the results there will be reference made to specific sections of the pieces of direct marketing, as each one is composed of an assortment of components. Some have an address box and an envelope design, whereas others are in the form of leaflets. Some have many pages of information

enclosed, whereas others contain a one page letter. To compare results across the set of 14 adverts, analysis focuses on the front of the advert and the first main page contained within the advert, as other elements are not shared by all of the stimuli. Although the results do not outline each and every one, during the sessions the subjects were exposed to all of the advertisement components.

The questionnaire and eye-tracking procedures used in the first 2 conditions were repeated here, and the advertising pages were shown on a computer screen and in a logical order *e.g.* front of envelope, back of envelope, first page and so on. As with the magazine condition, there was no set time limit for exposure, as in a 'real-world' situation consumers would be able to control their own viewing time. DM adverts usually contain a lot more detailed information than poster or magazine adverts, as the consumer is introduced to the advertising in an environment where they could choose to spend time reading about the product/brand. In reality, the consumers may alternatively decide not to open the advertising, or to read some pages and not others. For the purposes of collecting subject data across each advert, all advert pages were included in the experimental conditions, although subjects were able to control the length of exposure for each page they viewed.

In discussing the increased use of direct mail in advertising, Vriens et al. [Vriens, VanDerScheer, Hoekstra & Bult (1998)] summarise the advantages of using this particular medium over others. These include the ability for precision targeting of the audience, the opportunity to personalise the advertising and the

capacity for flexible formats. However, what is also noted is that the cost is relatively high compared to other media, and therefore the effectiveness of direct mail, whether this is in the form of brand awareness or increased sales, is important.

For each advertising variable measured, an average score was calculated for each advert across the appropriate subject group and for subject variables, average scores across the subject group are shown unless otherwise stated.

As part of the analysis a data reduction process was also carried out (outlined in the previous chapter). This indicated that of the 8 main attitude to the ad measures, 3 factors were underlying judgements made on these variables – positive feelings and intentions, communication and visual impact. One factor was identified from analyses on the 4 main attitude to the brand measures – a complete brand judgement. All in all these factors appeared in enough examples across the 3 data sets to take forward into further data analysis. Aggregate scores for the new factors were calculated for each example advert and this data was used to conduct Pearson correlations (2-tailed) between factor scores and raw scores on various other variables where relevant.

A small number of correlations (Pearson 2-tailed) based on average scores across the subject group for each advert were also carried out as part of the analysis of results. Due to the averaging method these results should be regarded with caution and in most cases these results are only included when

they are particularly relevant to a discussion point and figures will be shown as part of the appendices where appropriate.

In some cases it is appropriate to use a statistical adjustment to correct for multiple correlations *e.g.* the Bonferroni method whereby p values are adjusted in relation to the number of tests carried out. Such techniques are used to ensure correlations are not taken to be significant when in fact they may have occurred by chance when so many comparisons are being made between variables. By applying a conservative correction method like Bonferroni, there is a higher confidence that there are no spurious significant relationships present within the multiple correlation data. This method was applied where appropriate.

5.2 Shopping Habits, Brand Preferences and Perceptions of Advertising

5.2.1 Purchase Behaviour and Attitudes towards Advertising

Subjects were asked to respond to questions about their own purchase behaviour, including the importance of decisions in the product areas of which adverts in the experiment were featured. They were also asked about their feelings towards the type of advertising (advertising medium/channel) in question in the respective experimental conditions. Results across the 3 experimental conditions are shown in the tables below.

The shopping habits and attitudes towards advertising average scores are all positioned around the mid-point of the response scale. As would be expected, spontaneity scores were low where loyalty scores were high (in experiment 1

these variables correlate negatively with a value of -.616, significant at the 0.01 level and in experiment 2 with a value of -.346, significant at the 0.05 level). In experiment 2, spontaneity also correlates significantly with consumers' perceived influence of promotions on their purchases. This relationship was in a positive direction (.316, significant at the 0.05 level), indicating that a spontaneous shopper will be more likely to alter their shopping habits depending on the promotions available.

In experiment 1 it was evident that a higher 'general liking' of advertising was linked to a higher level of 'notice of advertising' and 'positivity towards poster ads' (.519 and .583 respectively, significant at the 0.01 level)[38]. In experiment 2 when the 'notice of advertising in general', 'general liking of ads' and 'general influence of ads' measures were investigated through Pearson correlations, it was evident that these variables were related in several ways. The more 'notice of advertising', the more 'general liking' and 'general influence' of advertising (.603 and .501 respectively, significant at the 0.01 level). There was also a small but significant correlation between notice of advertising and positivity towards magazine adverts (.284, significant at the 0.05 level).

In turn, a higher general liking of adverts correlated with a higher influence of advertising and positivity towards magazine adverts (.417 and .390 respectively, significant at the 0.01 level), and a higher general influence also correlated with magazine positivity separately (.438, also significant at the 0.01 level). This cluster of correlations suggests that there are certain types of

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[38] Please see Appendix 1 for full statistical tables.

consumer based on how they feel about advertising on the whole. Those that do not generally like advertising do not feel they are influenced by it and believe they take little notice of it. Consumers that like advertising in general also feel more positive about magazine adverts in particular. They claim to notice advertising more, perceiving it to have a relatively high influence on their shopping habits. It is a possibility that a 'halo and horns' effect could be underlying this relationship between variables *i.e.* because a consumer likes advertising generally, they respond more favourably to the questions relating to the influence of advertising on them and their views of specific types of advertising in the same way a general dislike of advertising could affect responses in a negative way.

In experiment 3 the loyalty average is higher than the spontaneity average (6/10 compared to 4.35/10) and although these 2 variables did show a negative correlation as in the previous 2 data sets, this correlation was not significant (-.223, significance level .128). In terms of the variables describing how the subjects feel about advertising and how influenced by it, how much notice they take of it and how influenced they feel they are by promotions, the averages all fall around the 5/10 and 6/10 point on the scale. This suggests that there were not many extreme views on these measures. However, the positivity towards direct marketing in particular is very low on average (3.04) and shows that this advertising medium is not favoured by the subject group.

Pearson correlations identified a relationship between the 'notice of advertising in general', 'general liking of ads' and 'general influence of ads' measures, as

also recognised in condition 2. The higher the general liking of adverts, the higher the general influence of advertising and the more notice of advertising (.520 and .658 respectively, significant at the 0.01 level). General influence and general notice of advertising were also significantly correlated (.588, significant at the 0.01 level). Although the positivity towards DM was low overall, scores were increased with higher responses on the 'notice of advertising' 'general liking of advertising' and 'general influence of advertising' measures (.296, .384 and .409 correlations respectively, significant at the 0.05, 0.01 and 0.01 levels). This supports the idea that consumers who feel more positively about advertising in general are more positive about particular media and are potentially more receptive to advertising.

TABLE 13: Shopping Habits and Attitudes towards Advertising – Experiments 1, 2 & 3 averages across subject sets

		Spontaneity	Loyalty	Perceived Influence of Promotions	Influence of Children	Notice of Advertising in general	General Liking of Ads	General Influence of Ads	Positivity towards specific medium
Exp 1 Subjects	**Average**	4.29	6.23	5.48	6.00	6.13	5.23	5.31	5.70
	St Dev	2.18	2.01	2.18	2.76	1.89	1.90	2.10	2.12
Exp 2 Subjects	**Average**	4.08	5.98	5.86	5.56	6.34	5.16	4.96	5.10
	St Dev	1.81	2.15	2.42	2.28	2.07	1.74	2.34	1.72
Exp 3 Subjects	**Average**	4.35	6	6.15	5.22	6.31	5.42	5.35	3.04
	St Dev	1.88	2.38	2.39	2.91	1.98	2.56	1.84	2.30

TABLE 14: Overall Average PDI Scores – Experiments 1, 2 & 3 averages across subjects sets

		Toiletries	Laundry	Groceries	Impulse Snacks
Exp 1 Subjects	**PDI Score**	7.04	6.56	7.23	5.94
Exp 2 Subjects	**PDI Score**	7.29	6.77	6.83	6.21
Exp 3 Subjects	**PDI Score**	7.39	6.11	7.11	n/a

PDI: Product Decision Involvement Mittal (1989) (See Appendix 4 for a description of the PDI scale and scoring)

When subjects' ages were correlated with their scores on the measures outlined in the tables above (shopping habits and attitudes and PDI), there were very few significant correlations. Experiment 1 results showed a low correlation (.396, significant at the 0.01 level) between age and the Laundry PDI score. Experiment 2 results showed a correlation of age with the 'influence of promotions' measure. This correlation coefficient was also low (-.333, significant at the 0.05 level). The experiment 3 results showed just one significant correlation, again between age and the Laundry PDI score, but the correlation was weak, with a value of .285 (significant at the 0.05 level). This suggests that the range of ages within the subject group has not affected the average scores *i.e.* there were no extraneous effects produced by recruiting subjects across a 25-50 age range.

In experiment 1 product decision involvement was around the 6/10-7/10 level across all 4 categories. Toiletries and laundry show the closest scores. Experiment 1 results in the table below show the most frequently stated reason for choosing the preferred brand in these categories is quality. Consumer preferences in the toiletries product group can also often be perceived by the customer to represent some part of their personal image. Impulse snack decisions are relatively less important, and the main purchase reason for this group is personal taste. Consistency is also lower for this product group. This suggests the preferred brand changes more often. Interestingly, the product category with the highest PDI score also shows personal taste as the reason for the preferred brand in all categories the subjects were questioned about (and were featured in the target ads).

In experiment 2 product decision involvement was around the 6/10-7/10 level across all 4 categories, as with the condition 1 subject group. The toiletries group shows a slightly higher PDI score than the laundry and groceries categories (7.29 compared to 6.77 and 6.83 respectively), with impulse snacks showing the lowest average of 6.21. The table below shows that toiletries and laundry preferred brands are chosen because of their quality, whereas groceries and impulse snacks are chosen depending on personal taste (these were the most frequently occurring answers for each product across the group). Consistency for the preferred brand was relatively high for the toiletries group of products, and although consistency was generally low for the impulse snacks group, chocolate scored one of the highest averages, showing that this product in particular has more regularity in its choice.

Experiment 3 PDI scores fall into the same area of the scale as in conditions 1 and 2, around 6/10 to 7/10. The toiletries category shows the highest score (7.39), a pattern once more evident in the previous data set. The following table shows that the reasons for purchase most common across the subject group varied between the products within each category, making it more difficult to identify overall themes. What is implied is that toiletries are mainly chosen for their quality, and groceries are down to personal taste. This is another pattern shown in the other subject groups. Consistency scores also vary across the individual products, although tea and washing powder have the highest averages, suggesting that in the case of these items in particular, buying the preferred brand is important and is a regular choice.

TABLE 15: Preferred Brand Consistency Scores and Reason for Purchase – Experiments 1, 2 & 3 averages across subject sets

	Exp		Deodorant	Shampoo	Moisturiser	Hair Colourant	Perfume	Conditioner	Body Wash
Toiletries	1	**Score**	1.64	1.46	1.43	1.44	n/a	n/a	n/a
		Reason	personaltaste	Quality	quality	quality	n/a	n/a	n/a
	2	**Score**	1.60	1.52	1.45	1.47	1.51	n/a	n/a
		Reason	quality	Quality	quality	quality	personaltaste	n/a	n/a
	3	**Score**	1.60	1.63	1.43	n/a	n/a	1.53	1.57
		Reason	personaltaste	Quality	quality	n/a	n/a	quality	personaltaste
			Washing Powder	**Fabric Conditioner**					
Laundry	1	**Score**	1.56	1.67					
		Reason	quality	Quality					
	2	**Score**	1.56	1.41					
		Reason	quality	Quality					
	3	**Score**	1.71	1.68					
		Reason	quality	Habit					
			Tea	**Coffee**	**Soup**	**Biscuits**	**Cereal**	**Condiments**	**Sauces**	**Frozen**	**Spread**
Groceries	1	**Score**	1.67	1.59	1.58	1.20	1.39	1.55	n/a	n/a	n/a
		Reason	personaltaste	personaltaste	personaltaste	personaltaste	personaltaste	personaltaste	n/a	n/a	n/a
	2	**Score**	1.51	1.52	n/a	n/a	n/a	n/a	1.27	1.09	n/a
		Reason	personaltaste	personaltaste	n/a	n/a	n/a	n/a	personaltaste	personaltaste	n/a
	3	**Score**	1.80	n/a	n/a	n/a	n/a	n/a	n/a	1.58	1.65
		Reason	personaltaste	n/a	n/a	n/a	n/a	n/a	n/a	personaltaste	personal taste
			Chocolate	**Ice Cream**	**Sweets**	**Crisps**	**Snack Bar**				
Snacks	1	**Score**	1.17	1.21	0.89	n/a	n/a				
		Reason	personaltaste	personaltaste	personaltaste	n/a	n/a				
	2	**Score**	1.60	1.10	n/a	1.44	1.24				
		Reason	personaltaste	personaltaste	n/a	personaltaste	personaltaste				

Snacks n/a for Experiment 3

Please Note: Maximum consistency = 2; minimum consistency = 0 (Averages across subject sets shown). 'Reason' multiple choice options: Quality, Price, Habit, Personal Taste, Promotion, Loyalty or Advertising (Most frequently occurring response shown).

5.2.2 Interaction with Magazines and DM

The first table below shows responses concerning the way the subjects normally read magazines. The majority (62%) answered that they read magazines front page to back page. This means that advertising placed in prominent places in the front of the magazine would potentially have higher impact. A high number of subjects said that they do take notice of advertising, or sometimes take notice of it. Only 26% believed that they did not focus on advertising when reading a magazine. Subjects were not asked how long they would normally look at magazine advertisements as this is difficult to recall or quantify. In the magazine condition subjects were able to view the magazine adverts for an unspecified length of time. In one sense this meant that viewing was as close to real conditions as possible, although the effects of the testing environment must be taken into account. In a situation where a participant is being observed under experimental conditions their behaviour may be influenced by a need for social approval. However, the parameters remained the same for each advertisement viewed and in this project adverts are being compared with one another within the experimental stimuli set – ecologically valid conditions were not possible while maintaining accurate eye-tracking recording.

The second table below displays subject responses concerning attitudes and reactions to direct marketing. The results show that samples and coupons (and a note of these on the outside of the DM) are the key interests of the

consumers. There is a higher interest in receiving DM containing information about toiletries and 30.65% of the subject group said that they would be most likely to open direct marketing of this kind. This all relates to the higher average PDI score for this product category. Finance based direct marketing was the category subjects would be least likely to open. Although positivity towards direct marketing was low on average across the participants, a large proportion (35.42%) said they always open DM material they receive at home. Only 2.08% said they never open DM which suggests that even though attitudes towards this type of advertising may be negative compared to other media, there is still potential for consumers to be reached as they may still read the advertising.

TABLE 16: Magazine Readership Behaviour (Experiment 2 subjects)

QUESTION	**"How do you generally read magazines?"**				**"In general, do you take notice of the advertising?"**		
RESPONSE	Front to back	Back to front	Random order	It varies	Yes	No	Sometimes
	62%	14%	14%	10%	32%	26%	42%

TABLE 17: Attitudes and Reactions to DM (Experiment 3 subjects)

Interest in (Content):	**General Information**	**Product news/updates**	**Samples**	**Coupons**		
Average score	1.98	2.50	4.46	3.69		
Interest in (Product):	**Food**	**Snacks**	**Household cleaning**	**Washing/ Clothes care**	**Toiletries (hair)**	**Toiletries (skincare)**
Average score	3.06	2.63	3.38	3.52	4.44	4.29
Importance of: (Design)	**'Free Sample' on outer**	**'Free Coupon' on outer**	**Colour/Shape/Size of pack**	**Plain Envelope (replicating bill)**	**Other**	
Average score	4.27	3.60	3.04	2.46	Interest in product	5.00
					Brand/product shown	4.50
					'You have won'	3.00
					Personally addressed	4.00
					Novel presentation	4.00
					Eye-catching	3.00
"How often do you open DM material?"	**Always**	**Often**	**Sometimes**	**Never**		
% of responses	35.42%	25%	37.5%	2.08%		
Most likely to open	**Toiletries**	**Clothes**	**Food**	**Other**		
% of responses	30.65%	22.58%	16.13%	30.65%		
Least likely to open	**Finance**	**Cars**	**Other**			
% of responses	57.14%	19.05%	23.81%			

'Interest' and 'Importance' items scored on a 5-point scale

5.2.3 Informational/Transformational Scores

Informational and transformational scores were recorded for each poster, magazine and DM advertisement by a set of subjects separate to the experimental participants in each condition. As briefly discussed in the methodology chapter, there are various ways of categorising advert effects, including 'affect' or 'emotion' as alternatives to the 'transformational' classification. However, the transformational description was chosen as it represents the specific effect of association with the brand experience portrayed in an advertisement. This was closely linked to many of the main ideas and objectives behind the experimental hypotheses.

When the informational/transformational sets of scores from experiment 1 were analysed, a significant correlation of .747 at the 0.01 level was evident, suggesting an overlap between the 2 constructs. Although most of the adverts in the poster set showed a slight difference in scores, generally there was not a significant distinction to be made between the 2 dimensions. It may not be productive to try to compare the performance of the adverts by their scores on these scales, as there is some ambiguity as to which category they should belong. Puto & Wells (1984) classified ads with a score below the midpoint of 3.5 to be 'low' on the measured dimension, and above 3.5 to be 'high' (Handbook of Marketing Scales). The range of informational scores across the poster advertisements is 1.7 to 3.1, and for transformational scores 1.8 to 3.2.

In experiment 2 there was no significant relationship between the informational and transformational scores as there was in the previous results set, however,

as with the poster ad scores, the difference in informational and transformational averages was not very marked for any of the adverts in the magazine data set. The informational averages ranged from 2.3 to 3.7, and the transformational averages ranged from 1.5 to 3.5.

In experiment 3 when the 2 variables were correlated with one another, a strong and significant relationship was found (.838, significant at the 0.01 level), thus suggesting an overlap between the 2 constructs, and reducing the reliability of any results relating to these measures. As with the previous 2 data sets, there were few DM advertisements classified as scoring 'high' (above 3.5) on either scale. Informational averages ranged from 2.1 to 4.0, and transformational averages ranged from 2.0 to 4.2.

It was not deemed appropriate to use factor scores here as this analysis would be based on a small set of example adverts and informational and transformational scores did not show marked differences when the adverts were rated. The adverts were also rated by a separate, smaller subject group on these 2 concepts. Tentative Pearson correlations based on average scores for the full advert sets on informational and transformational scores and the original set of attitude to the ad and attitude to the brand variables were produced (see Appendix 1).

Experiment 1 and 2 data showed a handful of relevant findings where correlations between the average scores were significant at a corrected level (see Appendix 1). In both data sets, average informational scores correlated

highly and significantly with the informative scores from the attitude to the ad measures, as would be expected. Experiment 1 data also showed a high, significant correlation between informational scores and the believability of the ad, plus how easy to understand the advert was perceived to be. This suggests a link between product information contained in an advert and how clear and trustworthy the ad message is deemed, in poster adverts in this case. Experiment 2 data provided a significant correlation between average transformational scores and the enjoyability attitude measure, linking the projection of a lifestyle concept with a pleasurable ad experience. Perhaps more emotive adverts are enjoyed more by the consumer.

Other correlations were significant across both concepts providing little useful information about the relationship between the informational/transformational scores and other attitude to the ad variables. Experiment 3 data showed no significant correlations between informational/transformational and attitude to the ad average scores. Average attitude to the brand scores from all 3 data sets failed to show any correlations significant enough to mention here.

5.3 Advert Characteristics, Attitudes and Performance

5.3.1 Top and Bottom Advert Characteristics

Adverts were scored in terms of their performance on the Attitude to the Ad variables: Relevant, Informative, Eye-catching, Interesting, Easy to understand, Believable, Enjoyable and More likely to try the brand (in experiments 1 and 2 these variables were measured using ranking, in experiment 3 subjects used a Likert scale). For each advert, mean scores for each variable across the

applicable subject group were calculated, representing average attitude judgements. Based on an average of these scores across all 8 variables, an overall rank (ad rank) was also calculated. Adverts were assessed in this way so the best and worst performers could be compared, and any common characteristics identified. The same method was used to rank adverts on the attitude to the brand measures (brand rank).

Of the 32 target poster and magazine adverts, the top and bottom 5 in terms of overall rank scores for attitude to the ad measures are shown in the table below. For DM target adverts, the top and bottom 3 out of 14 are shown. In experiment 1 the top adverts showed high overall brand ranks, with the exception of the Impulse advertisement, which also has a significantly lower recall score. Advert descriptions and brand associations are positive and liking is above average. Bottom adverts show low brand ranks, liking scores and impact scores, although the recall scores are extremely varied, with two of the adverts showing very low scores, and the others above average scores. Descriptions chosen for the bottom ranked adverts are negative and there are fewer positive brand associations for these ads.

In experiment 2 laundry adverts were placed at the top and bottom of the scale. The top ranked advert (Persil) showed high impact and liking scores and positive brand associations that appeared to be linked to the main pictorial. The bottom ranked advert (Ariel) scored very low on impact, liking and recall, and the advertisement descriptions and brand associations were generally of a negative theme. This pattern is also evident across the other top and bottom

adverts, although in several cases *e.g.* Magnum advert, recall is very high where other measures are low.

Experiment 3 results showed that brand ranks for the top rated advertisements on the attitude to the ad measures varied, indicating that positive advert perceptions did not necessarily link to positive brand perceptions in all cases. Subjects responses overall showed that they would open and read the content of the top advert in detail, and would at least open the other top ranked adverts. Impact and liking are above average although brand recall is particularly low for the Surf ad, which also showed the low brand rank. The top adverts were described positively and also created positive brand associations. The bottom ranked adverts did generally show low brand ranks and lower than average impact and liking. Again, brand recall did not necessarily relate directly to the performance on advert measures. Some negative ad descriptions are evident. Brand associations are generally positive although they are more descriptive than emotive.

TABLE 18: 5 Top and Bottom ranked Poster Ads by Attitude to the Ad Measures

Rank	Advert	Brand Rank	Impact	Liking	Brand Recall	Informational Score	Transformational Score	Ad Descriptions	Brand Associations
1	**Heinz**	1	168	112	158	3.1	2.7	Striking Clever Simple	Healthy Warming Homely Quality
2	**Impulse**	21	176	126	82	2.9	3.0	Striking Clever Intriguing	Softness Girlie Gentle Cute
3	**Persil**	5	160	123	106	3.0	2.8	Striking Simple Straightforward	Gentle Soft Good Quality Caring
4	**Quaker**	6	86	104	123	2.9	2.5	Clear Clever Simple	Warming Traditional Wholesome
5	**Branston**	11	119	111	144	2.7	2.2	Busy Clever Cluttered	Tasty Quality
28	**Jaffa Cakes/ Milk chocolate digestives**	13	78	91	41	2.3	2.2	Confusing Plain Dull	Quality Reliable
29	**Herbal Essences**	32	78	96	34	2.6	2.6	Ordinary Plain Dull	Old fashioned Nice Blonde
30	**Aero**	19	53	78	144	2.3	2.3	Straightforward Plain Dull	Light Bubbly Boring
31	**Lion**	28	86	86	127	1.7	2.0	Plain Confusing Intriguing	Chewy Manly
32	**Magnum**	29	61	77	144	2.2	2.2	Busy Confusing Dull	Indulgence Expensive Luxury Extravagant

Brand Rank = overall rank score out of 32 ads **Impact/Liking/Brand Recall = Index numbers (score in relation to overall average)**
Informational/Transformational Score = overall average on a 0-6 scale **Brand Associations: Most frequently occurring brand associations**
Ad descriptions: Busy/Striking/Plain/Clear, Confusing/Clever/Ordinary/Straightforward, Cluttered/Intriguing/Dull/Simple

TABLE 19: 5 Top and Bottom ranked Magazine Ads by Attitude to the Ad Measures

Rank	Advert	Brand Rank	Impact	Liking	Brand Recall	Informational Score	Transformational Score	Ad Descriptions	Brand Associations
1	**Persil**	1	171	133	111	3.3	3.1	Clear Simple Straightforward	Gentle Soft Sensitive
2	**Bertolli**	3	140	107	104	2.9	2.9	Striking Intriguing Straightforward	Vibrant Tasty Full flavour
3	**PG Tips**	2	147	141	156	2.8	3.5	Striking Clever Simple	Relaxing Funny Appropriate
4	**Rolo**	5	128	113	156	3.1	2.9	Clear Simple Straightforward	Chocolatey Fun
5	**Kenco**	4	136	105	170	3.2	2.5	Clear Simple Straightforward	Quality Traditional Flavour
28	**PG Pyramid**	23	124	95	70	2.8	2.2	StrikingConfusing Intriguing	Strange Funny
29	**Golden Lights**	30	50	76	11	3.4	2.2	Plain Ordinary Dull	Boring
30	**Birdseye Peas**	22	58	78	122	2.6	1.6	Plain Confusing Dull	Dull Boring
31	**Magnum**	27	74	93	152	2.3	2.3	Plain Ordinary Dull	Indulgent Sexy
32	**Ariel**	25	47	59	74	2.5	1.5	Plain Confusing Dull	Boring Dull Practical

Brand Rank = overall rank score out of 32 ads **Impact/Liking/Brand Recall = Index numbers (score in relation to overall average)**
Informational/Transformational Score = overall average on a 0-6 scale **Brand Associations: Most frequently occurring brand associations**
Ad descriptions: Busy/Striking/Plain/Clear, Confusing/Clever/Ordinary/Straightforward, Cluttered/Intriguing/Dull/Simple

TABLE 20: 3 Top and Bottom ranked DM Ads by Attitude to the Ad Measures

Rank	Advert	Action	Brand Rank	Impact	Liking	Brand Recall	Informational Score	Transformational Score	Ad Descriptions	Brand Associations
1	**Dove firming**	Look/ read in detail & use sample	1	171	143	150	4.0	4.2	Clear Clever Intriguing	For real women Fun
2	**Surf**	Open but not read content	10	145	119	62	3.5	3.2	Striking Clever Simple	Bright Clean Fun Summer
3	**Imperial leather**	Open but not read content	5	130	117	119	3.7	3.9	Striking Clever Simple	Cute Fun Children/Families
12	**Comfort Pure**	Not look at/ discard	6	60	92	56	3.1	2.7	Clear Simple Straightforward	Children's clothes Soft
13	**PG Tips**	Look/ read in detail & use coupon	7	26	76	125	3.4	2.5	Plain Simple Straightforward	Simple Monkeys/Chimps
14	**Sure**	Not look at/ discard	11	26	67	112	3.4	3.5	Plain Ordinary Dull	Luxurious

Action = Majority response to 'Action if this advertising was delivered to you at home' (multiple choice)
Brand Rank = overall rank score out of 14 ads
Impact/Liking/Brand Recall = Index numbers (score in relation to overall average)
Informational/Transformational Score = overall average on a 0-6 scale
Ad descriptions: Busy/Striking/Plain/Clear, Confusing/Clever/Ordinary/Straightforward, Cluttered/Intriguing/Dull/Simple
Brand Associations: Most frequently occurring brand associations

5.3.2 The Influence of Subject Demographics

Recruited subjects were mainly within the B/C1/C2 socio-demographic groups and represented female consumers who were responsible for the household shopping. Scores on shopping habits showed relatively low levels of variance. Subjects were also recruited within a 25-50 age range, however, there was a potential for the variance within this range to have an effect on responses to the advertising stimuli. This was briefly addressed by correlating subject ages with their liking ratings for the top and bottom adverts in the relevant experimental conditions. The results are shown in the table below.

KEY
Content of cells = Pearson Correlation (2-tailed)
*** = significant at 0.001 level; ** = significant at 0.01 level; * = significant at 0.05 level

TABLE 21: Correlations between Subject Age and Liking Scores

		Heinz Liking Score	Magnum Liking Score	Persil Liking Score	Ariel Liking Score	Dove Liking Score	Sure Liking Score
Experiment 1 (Posters)	**Age**	-.314*	-.239	n/a	n/a	n/a	n/a
Experiment 2 (Magazines)	**Age**	n/a	n/a	.055	-.052	n/a	n/a
Experiment 3 (DM)	**Age**	n/a	n/a	n/a	n/a	-.395**	.003

All of the correlations were below .4 indicating that no strong relationships existed between subject ages and liking attitudes. One correlation between age and the Dove liking scores in experiment 3 was significant at the 0.01 level, but the correlation value was still relatively low. Most of the correlations were not significant. This sample of data suggests that the effects of age were negligible.

5.3.3 Correlations with Liking, Recall and Impact

5.3.3.1 Liking Correlations based on Factor Scores

Pearson 2-tailed correlations were carried out to gauge the strength of the relationship between liking and the factors identified as underlying attitude to the ad judgements (see below). Significance levels are highlighted.

KEY
Content of cells = Pearson Correlation (2-tailed)
*** = significant at 0.001 level; ** = significant at 0.01 level; * = significant at 0.05 level

NOTE: Experiment 1 & 2 Ad and Brand Measures (including Brand Familiarity) – low value = high rank; Liking scores – high score = high liking.

TABLE 22: Correlations between New Ad Factors and Liking – Experiment 1 example adverts (Poster)

		Positive Feelings & Intentions	Communication	Visual Impact
Advert				
1	**Liking**	-.458***	-.341*	-.182
2	**Liking**	-.468***	-.250	-.405**
3	**Liking**	-.442**	-.145	-.387**
9	**Liking**	-.175	-.263	-.315*
10	**Liking**	-.400**	-.389**	-.519***
11	**Liking**	-.594***	-.180	-.494***
17	**Liking**	-.186	-.222	-.226
18	**Liking**	-.507***	-.223	-.362*
19	**Liking**	-.065	-.187	-.269
25	**Liking**	-.152	-.219	-.123
26	**Liking**	-.339*	-.144	-.316*
27	**Liking**	-.353*	-.303*	-.426**

TABLE 23: Correlations between New Ad Factors and Liking – Experiment 2 example adverts (Magazine)

		Positive Feelings & Intentions	Communication	Visual Impact
Advert				
1	**Liking**	-.571***	-.371**	-.443***
2	**Liking**	-.275	-.434**	-.359**
3	**Liking**	-.618***	-.249	-.604***
9	**Liking**	-.359**	-.019	-.312*
10	**Liking**	-.563***	-.269	-.631***
11	**Liking**	-.464***	-.435**	-.370**
17	**Liking**	-.457***	-.261	-.565***
18	**Liking**	-.563***	-.334*	-.604***
19	**Liking**	-.391**	.058	-.394**
25	**Liking**	-.427**	-.097	-.552***
26	**Liking**	-.635***	-.402**	-.527***
27	**Liking**	-.355*	-.169	-.539***

TABLE 24: Correlations between New Ad Factors and Liking – Experiment 3 example adverts (DM)

		Positive Feelings & Intentions	Communication	Visual Impact
Advert				
1	**Liking**	.652***	.402**	.618***
2	**Liking**	.638***	.398**	.677***
3	**Liking**	.741***	.462***	.651***
5	**Liking**	.679***	.502***	.586***
6	**Liking**	.747***	.576***	.815***
7	**Liking**	.714***	.539***	.740***
11	**Liking**	.600***	.484***	.610***
12	**Liking**	.735***	.618***	.726***
13	**Liking**	.699***	.552***	.597***

The Bonferroni correction method has not been applied here as most of the significant scores are already significant at the highest (0.001) level. Across the 3 conditions the results show that liking has a stronger relationship with the positive feelings and visual impact factors, and the relationship with the communication factor is less obvious. This pattern is more evident in the magazine advert data set (experiment 2) then the poster ad advert data set (experiment 1), even though a similar finding has emerged. Results for experiment 3 data are much more consistent due to the data source *i.e.* Likert scale data rather than rank scores, and here all 3 factors are shown to link to likeability, however, the correlation values are lower for the communication factor.

These results suggest that the perception of liking may have a stronger connection to visual and emotional aspects of the advert than the conveyance of the advertising message. The potential link between ad judgements and perception of the brand will be discussed below.

5.3.3.2 Impact Correlations based on Average Scores

The perceived impact of each advert was scored 1 if the participant felt the advert had impact or 0 if it did not. Although not ideal, due to this scoring method, it is more appropriate to study these results using average scores on these measures for each advert across the relevant subject group. The correlation tables from these average scores and average scores on the attitude to the ad and brand ranks are presented in Appendix 1, and the main findings reported here.

In terms of the relationship between attitude to the ad and impact, all 3 sets of data showed that the more eye-catching, interesting and enjoyable an advert was rated on average, the higher the average impact score. These correlations were all high and significant at corrected levels (see Appendix 1). In experiments 1 and 2, higher impact also correlated with a better score on the 'more likely to try' measure. These findings imply that the impact of advertisements is directly related to the way they are perceived in terms of their design and visual effect, but not necessarily in terms of how the content is perceived *i.e.* how relevant or informative it is. The eye-catching questionnaire element was aimed at assessing the attention-getting influence of an advert, and the impact measure aimed to assess how visually striking the consumer found any one advert, however, it is possible that the subjects were interpreting these 2 aspects as the same thing. There may also be a similar effect at play concerning the interpretation of the 'interesting' measure.

The fact that liking has been shown to have stronger and more significant correlations with the positive feelings and visual impact factors than the communication factor implies that liking and impact both represent a judgement based on primary visual perceptions of an advertisement.

5.3.3.3 Recall Correlations based on Average Scores

During each experimental condition, adverts were scored 1 for correct recall or 0 for no recall or incorrect recall. As above, due to this type of scoring results here are based on average scores. Experiment 3 data showed no significant correlations between recall scores and attitude to the ad and brand scores, based on averages, and experiment 2 showed no correlations significant at a corrected level. Experiment 1 data showed no significant links between recall and attitude to the ad, but there was a significant correlation between recall and brand appeal, and recall and value for money *i.e.* better recall of the brand was linked to better scores on these brand judgements. This suggests that a positive impression of the brand could enhance the ability to later recall the brand name. The potential effects of brand involvement are explored later.

5.3.3.4 Pre-Exposure

Subjects were asked during Session 1 of each condition if they thought they had seen the adverts before. Even though the experimental advertisements were chosen to be non-current where possible, it was important to gauge how familiar the subjects perceived themselves to be with the adverts (whether or not they had in fact, actually seen them). Pre-exposure was not entered into a correlation with subject's product purchase history (of the featured brands or

other brands). Subjects were only asked about the specific advertisements in question and not about other versions of these adverts or adverts for similar products (although these would have existed in some cases, only the stimulus adverts were assessed). Subjects were also asked in Session 2 if they had seen the experimental adverts during the 2 week period between testing. Responses were marked on a 3-point scale, relating to whether the participants thought they had not seen the advert, seen it once or seen it several times. All scores across the 3 experimental conditions were less than 1, in fact, the majority of the averages were below 0.5, suggesting that exposure to the test adverts during this break need not be considered an extraneous variable. Therefore, the pre-exposure variable shown in these results refers to the measure taken during Session 1.

Pre-exposure is not likely to have affected subjects' responses in terms of the attitude to the ad or attitude to the brand measures, as these questions were based on their own perceptions of the adverts at the time of testing, however, previous exposure to some of the adverts could potentially affect measures such as recall. A partial correlation was carried out based on the average recall and attitude to the brand scores, controlling for pre-exposure (see Appendix 1). The experiment 1 correlations between recall and brand appeal, and recall and value for money, remained significant while controlling for pre-exposure.

Although interpretation of the results should still take into account that the adverts used were not designed specifically for testing but were real advert examples, there did not appear to be any unacceptable effects of pre-exposure.

5.3.4 Correlations between Attitude to the Ad and Brand Variables

5.3.4.1 Correlations between New Ad and Brand Factors

3 factors underlying ad judgements and 1 factor underlying brand judgements were identified through a data reduction process. The tables below show Pearson correlations between the ad factors and the complete brand judgement factor for the set of example adverts from each experimental condition.

KEY
Content of cells = Pearson Correlation (2-tailed)
*** = significant at 0.001 level; ** = significant at 0.01 level; * = significant at 0.05 level

NOTE: Experiment 1 & 2 Ad and Brand Measures (including Brand Familiarity) – low value = high rank.

TABLE 25: Correlations between New Ad and Brand Factors – Experiment 1 example adverts (Poster)

		Positive Feelings & Intentions	Communication	Visual Impact
Advert 1	Brand Judgement	.519***	.242	.421**
2	Brand Judgement	.482***	.377**	.448***
3	Brand Judgement	.480***	.428**	.289*
9	Brand Judgement	.421**	.557***	.330*
10	Brand Judgement	.332*	.270	.331*
11	Brand Judgement	.501***	.183	.456***
17	Brand Judgement	.368**	.068	.311*
18	Brand Judgement	.300*	.126	.170
19	Brand Judgement	.423**	.378**	.293*
25	Brand Judgement	.613***	.169	.436**
26	Brand Judgement	.384**	.260	.410**
27	Brand Judgement	.667***	.439**	.428**

TABLE 26: Correlations between New Ad and Brand Factors – Experiment 2 example adverts (Magazine)

	Positive Feelings & Intentions	Communication	Visual Impact
Advert 1 Brand Judgement	.342*	.247	.286*
Advert 2 Brand Judgement	.551***	.467***	.358*
Advert 3 Brand Judgement	.704***	.457***	.721***
Advert 9 Brand Judgement	.409**	.263	.436**
Advert 10 Brand Judgement	.525***	.148	.501***
Advert 11 Brand Judgement	.220	.282*	.186
Advert 17 Brand Judgement	.693***	.360**	.559***
Advert 18 Brand Judgement	.526***	.381**	.577***
Advert 19 Brand Judgement	.609***	.088	.488***
Advert 25 Brand Judgement	.553***	.405**	.724***
Advert 26 Brand Judgement	.633***	.459***	.525***
Advert 27 Brand Judgement	.241	.326*	.246

TABLE 27: Correlations between New Ad and Brand Factors – Experiment 3 example adverts (DM)

	Positive Feelings & Intentions	Communication	Visual Impact
Advert 1 Brand Judgement	.403**	.417**	.462***
Advert 2 Brand Judgement	.447***	.588***	.336*
Advert 3 Brand Judgement	.205	.136	.201
Advert 5 Brand Judgement	.673***	.536***	.696***
Advert 6 Brand Judgement	.779***	.515***	.686***
Advert 7 Brand Judgement	.647***	.682***	.671***
Advert 11 Brand Judgement	.718***	.425**	.451***
Advert 12 Brand Judgement	.773***	.589***	.424**
Advert 13 Brand Judgement	.717***	.488***	.381**

There are some differences in results evident here. Experiment 1 data seems to indicate that brand judgements have a stronger link to the positive feelings and intentions created by poster adverts than the communication of the message or the visual elements. Although there are still some significant correlations with the latter factors they tend to be lower and not significant at the higher levels. For magazine adverts, both the positive feelings and visual impact factors have a stronger relationship with the brand judgement, and while there are some significant correlations with the communication factor, as with experiment 1 data there are fewer of them and at lower levels. Results were somewhat more consistent across the 3 factors for experiment 3, however, based on the correlation values it was the first factor which looked like it had the most involvement with brand judgements. In all, the number of correlations significant at a high level shown across the example adverts in all 3 experimental data sets, shows a considerable link between the positive feelings an advert creates, how it makes the consumer think about the brand, how it conveys information and a message about the brand and how it appeals visually, and the ultimate judgement the consumer then makes about the brand itself.

5.3.4.2 Brand Involvement

Brand usage and brand familiarity were both measured during the questionnaire sessions. For the brand usage measure participants were asked to indicate how often they purchased the brand in question. Brand familiarity was assed by ranking the 32 adverts in experiments 1 and 2 and on a 0-10

scale in experiment 3. Brand usage is a measure of a subject's actual experience with a brand, whereas familiarity might come from exposure to promotional activity relating to the brand, for example. Although pre-exposure to the advertising pieces was controlled for to an extent, it would be virtually impossible to ensure subjects did not have any type of previous exposure to the brands themselves.

Some initial partial correlations were carried out to asses the potential effects of brand involvement on the relationships between the ad and brand judgements outlined above. Brand familiarity was used for partial correlations here as this was measured in the same way as the attitude to the ad and brand variables. 2 example adverts representing strong correlations from each experiment were chosen and the results of these partial correlations are shown in the table below.

KEY
Content of cells = Pearson Correlation (2-tailed)
*** = significant at 0.001 level; ** = significant at 0.01 level; * = significant at 0.05 level

TABLE 28: Partial Correlations of Ad and Brand Factors while Controlling for Brand Familiarity – Experiment 1, 2 & 3 example adverts

	Positive Feelings & Intentions and Brand Judgement		Communication and Brand Judgement		Visual Impact and Brand Judgement	
	Original Corr. Value	Partial Corr. Value	Original Corr. Value	Partial Corr. Value	Original Corr. Value	Partial Corr. Value
Exp 1 Example Ad 2	.482***	.421**	.377**	.237	.448***	.324*
Exp 1 Example Ad 27	.667***	.594***	.439**	.325*	.428**	.382**
Exp 2 Example Ad 3	.704***	.724***	.457***	.436**	.721***	.735***
Exp 2 Example Ad 26	.633***	.603***	.459***	.413**	.525***	.484***
Exp 3 Example Ad 6	.779***	.686***	.515***	.338*	.686***	.565***
Exp 3 Example Ad 7	.647***	.496***	.682***	.483***	.671***	.598***

This small group of results suggests that the relationships that exist between ad factors and the brand judgement factor are only modestly affected by brand familiarity and then only in a small number of cases. Although correlation values decreased slightly for some of the examples, the correlations generally remained significant at a high level.

As part of the partial correlations being carried out, the relationship discovered in experiment 1 average data between recall and brand appeal, and recall and value for money, were briefly addressed. The results showed that the correlations between recall and these brand variables were no longer significant when brand usage or familiarity was controlled for. Full versions of

the partial correlation tables can be found in Appendix 1.This indicates that brand involvement is in some way involved in the relationship between rating an advertised brand and recalling the brand name. If usage is higher, the brand may be rated more positively due to bias, and the brand name recalled more easily due to experience with the brand.

When the average brand usage and brand familiarity scores were correlated with average brand attitude scores, a strong connection did appear to be evident, although findings based on averages should be treated with caution to some extent. These correlations can be seen in Appendix 1. In experiment 1 all correlations were significant at a high level. In experiment 2 brand usage and familiarity were correlated with most of the brand variables at a significant level and again appear to be intrinsically linked. In experiment 3 brand usage correlates significantly with all brand variables, and brand familiarity with the majority of them (the remaining correlations were significant at non-corrected levels of significance). It seems that brand involvement could affect judgements made about the brand in this type of study.

Brand involvement is a difficult concept to measure in consumers who will have countless types of interaction with and varying levels of experience and knowledge of any one brand. It can be difficult to define and measure brand usage and brand familiarity separately when relying on subjects to understand these as different things.

Average brand usage and brand familiarity scores for each advert across each subject group were correlated to explore this further. The correlative value between the brand usage and brand familiarity variables from the experiment 1 results is -.936 (significant at the 0.01 level)[39] and from the experiment 2 results -.712, significant at the 0.01 level. In experiment 3 brand usage and brand familiarity averages were correlated with a value of .813, significant at the 0.01 level[40]. This shows a very strong link and supporting the idea that familiarity with a brand may be due to actual experience of it and not necessarily experience of the advertising in which it is featured, for example. However, there also exists a possibility that advertising could make consumers familiar with a brand and this subsequently increases their usage. Another possibility is that the subject is indeed not able to judge these 2 things as separate concepts. The experiments aimed to asses brand usage (actual experience of using the brand in question) and brand familiarity (awareness and knowledge of the brand) as individual variables. Subjects could have potentially misinterpreted this and confused the 2 concepts with one another, believing that they had the same meaning. Rather than 2 distinct concepts being assessed here subjects appear to have used very similar criteria to answer both questions. This means that brand familiarity could in some cases mean the same as brand usage, and explains the close correlative relationship seen between these 2 variables. However, it could also be said that one goes hand in hand with the other and this highly correlative relationship is true.

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[39] Note: brand familiarity was scored using a ranking system, and brand usage was scored using a multiple choice question whereby increased usage was awarded an increased value. Subsequently, negative correlations may appear in this section due to the scoring methods used.

[40] Note: In condition 3, brand familiarity, along with other ad and brand attitude measures, was scored using a Likert scale. Brand usage was scored using a multiple choice question whereby increased usage was awarded an increased value.

5.4 Distribution of Attention

5.4.1 Eye-Movement Behaviour

The tables and colour plots below represent the distribution of attention on defined Areas of Interest across exposure times for each of the 3 experimental conditions. Experiment 1 poster adverts were shown with a 6 second exposure time. Experiment 2 magazine adverts and experiment 3 DM adverts were viewed by subjects with no limit on exposure time. Consequently, each advertisement (each advert page for DM) was viewed for a different amount of time on average. Colour plots of attention below show all fixations made by the relevant subject group during exposure, and highlight the first 6 seconds of exposure by breaking them down into colour-coded time segments, in order for comparisons to be made across conditions. Across the magazine adverts, no average exposure time exceeded 6 seconds. Some of the DM adverts had longer average exposure times. Fixation data is analysed in the same way for all 3 experiments, with the proportion of total fixations, proportion of total fixation time and average fixation durations for AOIs being the focus. The figures in the distribution of attention tables also represent all fixation data across each subject group. Data for the front of the advert (labelled 'Front of the Advert') and first inside page (labelled 'First Page of the Advert') are shown separately for experiment 3 (DM) adverts.

The first set of tables and plots show results for the top-ranked adverts (based on attitude to the ad) and the following tables and plots show results for the bottom ranked adverts in each set of stimuli. Eye-tracking was carried out on all

adverts in each experiment, but findings are based on the best and worst performing in terms of attitude measures, in order to examine patterns of attention in relation to feelings towards the adverts.

It was not possible to carry out any z tests or ANOVAs to compare fixation proportions or fixation data from the top and bottom ranked adverts, as these adverts did not contain equivalent sets of AOIs in terms of the number of AOIs or types of AOI. Although adverts might have shared some of the same elements, their AOI content was not statistically comparable. Due to the small number of each different product represented in the advert sets it was also unfeasible to conduct an analysis of fixation data across products. In addition, PDI scores had not been able to indicate very marked differences in the way the different product categories within the FMCG group were perceived by the subject groups.

Please Note: Each plot shows the scatter of fixation points from all subjects across the total exposure time. The colour chart indicates which colours correspond to which time segments (msec). H and V represent the Horizontal and Vertical fixation positions (converted from eye-tracker units to pixels).

TABLE 29: Fixation Data for Top 5 ranked Poster Adverts

		Area of Interest (AOI)							
	Ad	Brand Name	Pack Shot	Slogan	Secondary Slogan	Text	Picture	Information	Other
% Fixations	**Heinz**	n/a	**36%**	18%	n/a	10%	15%	2%	19%
	Impulse	5%	7%	9%	n/a	10%	**64%**	n/a	5%
	Persil	n/a	19%	33%	n/a	n/a	**40%**	n/a	8%
	Quaker	n/a	**74%**	13%	n/a	n/a	10%	n/a	3%
	Branston	n/a	9%	16%	1%	n/a	**73%**	n/a	1%
% First Fixations	**Heinz**	n/a	**67%**	6%	n/a	3%	24%	0%	n/a
	Impulse	14%	3%	0%	n/a	4%	**79%**	n/a	n/a
	Persil	n/a	1%	**58%**	n/a	n/a	40%	n/a	n/a
	Quaker	n/a	**87%**	6%	n/a	n/a	6%	n/a	n/a
	Branston	n/a	2%	9%	0%	n/a	**89%**	n/a	n/a
% Time Spent	**Heinz**	n/a	**44%**	16%	n/a	10%	13%	2%	15%
	Impulse	5%	6%	6%	n/a	10%	**69%**	n/a	4%
	Persil	n/a	23%	29%	n/a	n/a	**42%**	n/a	6%
	Quaker	n/a	**74%**	12%	n/a	n/a	10%	n/a	4%
	Branston	n/a	10%	15%	0%	n/a	**72%**	n/a	3%
Average Fixation Duration (msec)	**Heinz**	n/a	**465**	341	n/a	348	318	397	n/a
	Impulse	292	290	210	n/a	312	**341**	n/a	n/a
	Persil	n/a	**504**	362	n/a	n/a	430	n/a	n/a
	Quaker	n/a	327	305	n/a	n/a	**333**	n/a	n/a
	Branston	n/a	**328**	291	192	n/a	297	n/a	n/a

% Fixations = % of the total fixations made
% First Fixations = % of the fixations made on AOIs within the first 1000msec
% Time Spent = % of the total fixation time
Average Fixation Duration (msec) = average duration of fixations

FIG. 16-20: Colour Plots for Top 5 ranked Poster Adverts (Heinz, Impulse, Persil, Quaker, and Branston)

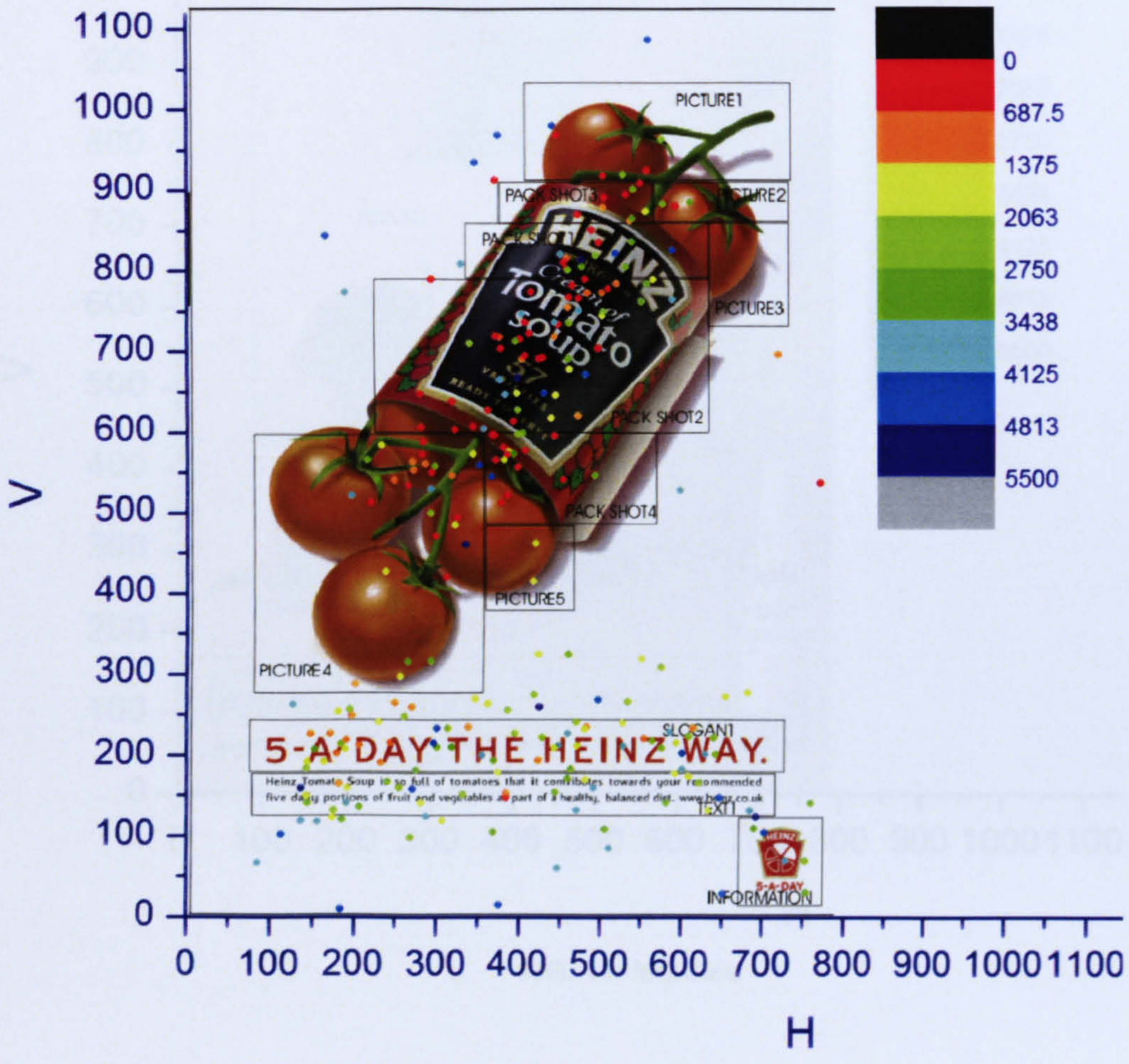

FIG. 16: Heinz

Based on the colour plots shown here depicting the fixation points of the subject group across each advert, across the 6 seconds of exposure, subjects appear to be demonstrating a similar viewing pattern over the ads if they are observed not in terms of the % of fixations on specific AOIs, but in terms of the general movement of gaze. For the top ranked adverts, this is a top-middle-bottom-middle pattern. Looking at the graduated colour points representing fixations, the red points are initially clustered around the top half of the ad, then move down through the ad to the bottom areas (yellow and green colour points are seen here) and back up to the central areas towards the end of exposure (blue colour points are shown here). It appears subjects scan the ad top-down and then return to the first areas they looked at before the exposure ends.

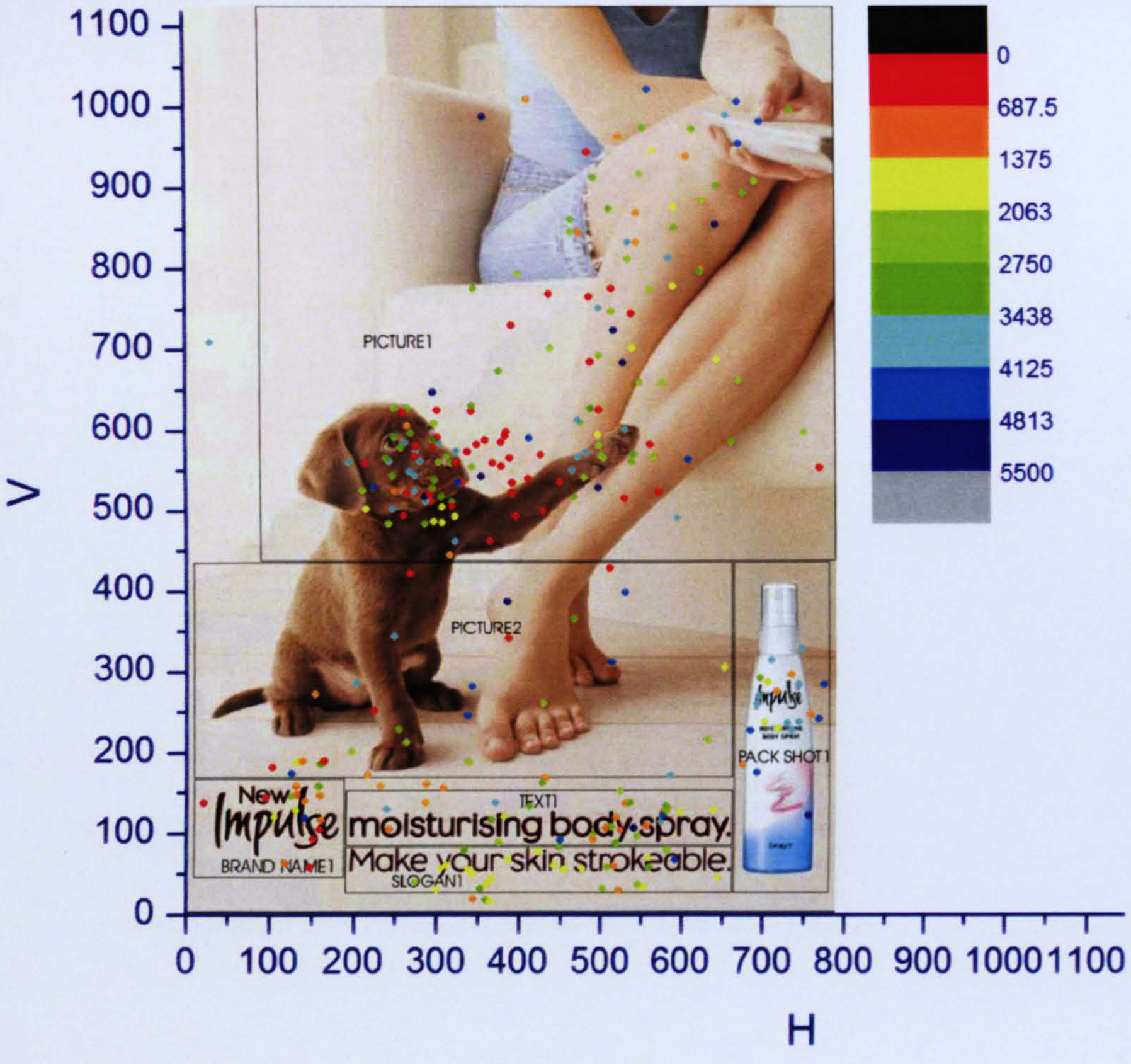

FIG. 17: Impulse

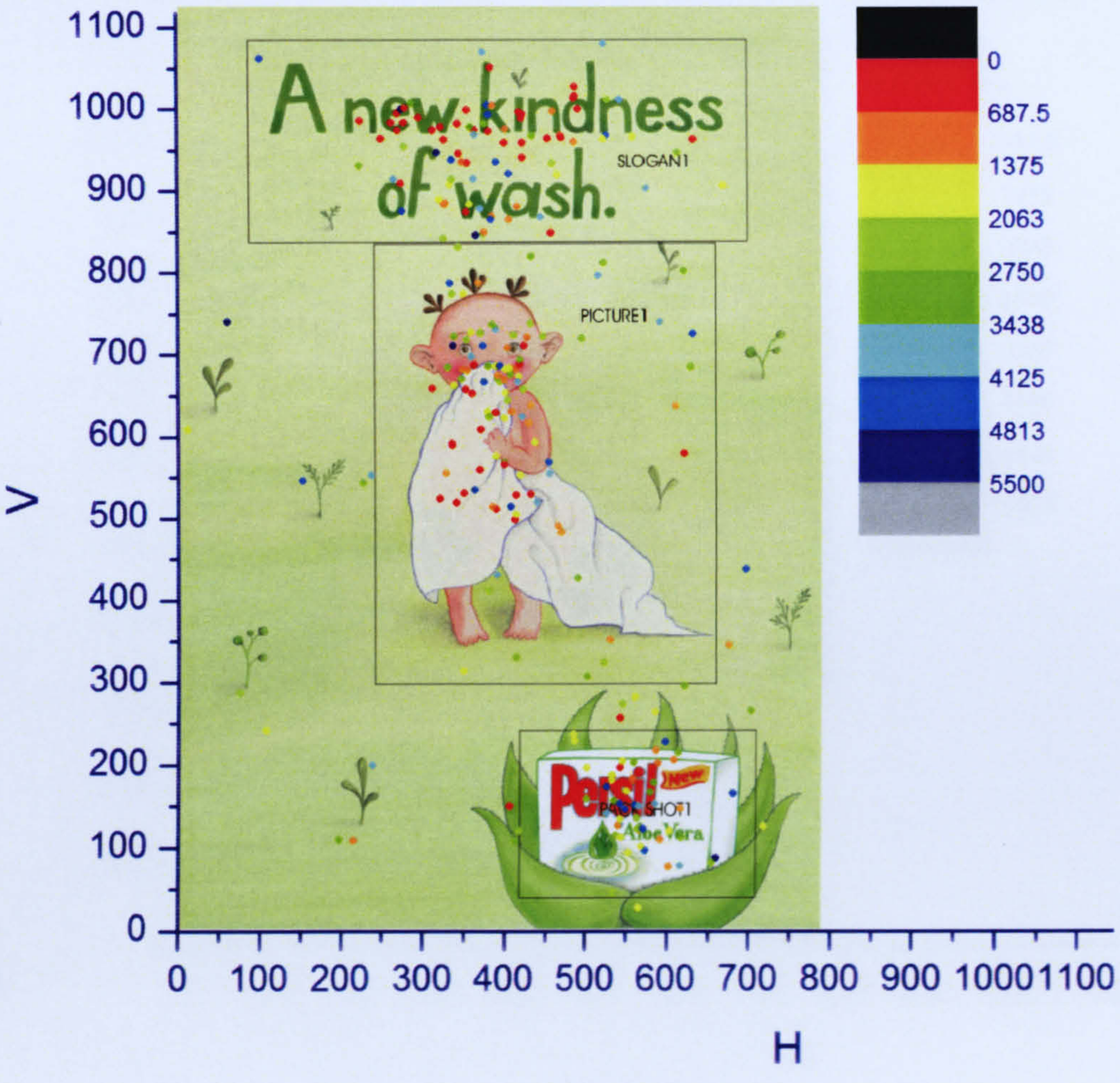

FIG. 18: Persil

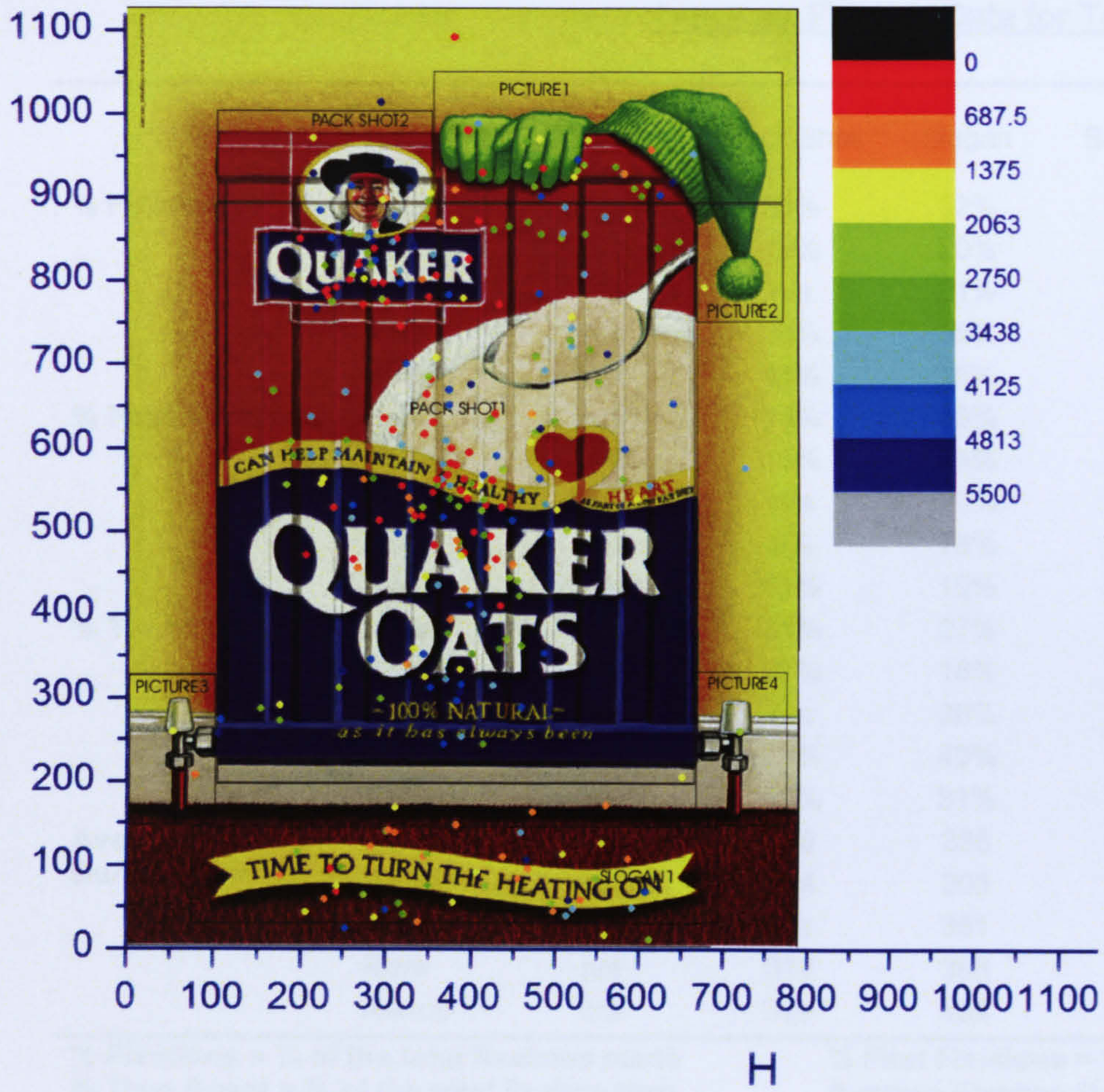

FIG. 19: Quaker

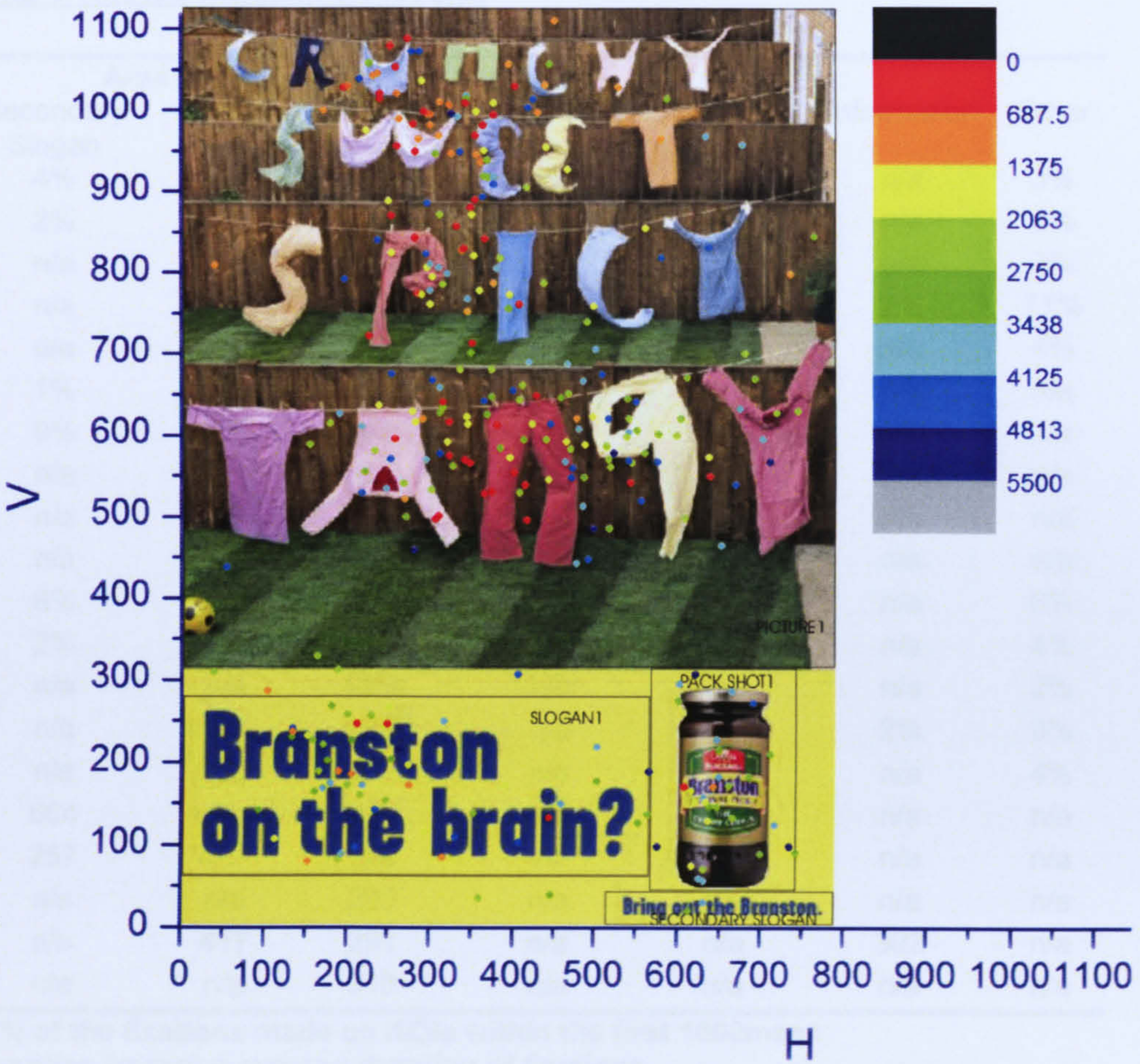

FIG. 20: Branston

TABLE 30: Fixation Data for Top 5 ranked Magazine Adverts

		Area of Interest (AOI)									
	Ad	Brand Name	Pack Shot	Slogan	Secondary Slogan	Text	Picture	Secondary Picture	Product	Information	Other
% Fixations	**Persil**	n/a	21%	32%	4%	n/a	**39%**	1%	n/a	n/a	3%
	Bertolli	19%	18%	20%	2%	6%	n/a	1%	**30%**	n/a	4%
	PG Tips	n/a	n/a	31%	n/a	n/a	**66%**	n/a	n/a	n/a	3%
	Rolo	n/a	25%	**39%**	n/a	9%	14%	n/a	n/a	2%	11%
	Kenco	n/a	**45%**	25%	n/a	n/a	26%	n/a	n/a	n/a	4%
% First Fixations	**Persil**	n/a	18%	**49%**	1%	n/a	31%	0%	n/a	n/a	n/a
	Bertolli	1%	15%	**44%**	0%	0%	n/a	0%	40%	n/a	n/a
	PG Tips	n/a	n/a	39%	n/a	n/a	**61%**	n/a	n/a	n/a	n/a
	Rolo	n/a	9%	**76%**	n/a	10%	4%	n/a	n/a	0%	n/a
	Kenco	n/a	**61%**	19%	n/a	n/a	20%	n/a	n/a	n/a	n/a
% Time Spent	**Persil**	n/a	**31%**	27%	6%	n/a	30%	1%	n/a	n/a	5%
	Bertolli	14%	**29%**	16%	2%	8%	n/a	1%	26%	n/a	4%
	PG Tips	n/a	n/a	36%	n/a	n/a	**62%**	n/a	n/a	n/a	2%
	Rolo	n/a	23%	**43%**	n/a	11%	12%	n/a	n/a	2%	9%
	Kenco	n/a	**45%**	31%	n/a	n/a	20%	n/a	n/a	n/a	4%
Average Fixation Duration (msec)	**Persil**	n/a	**680**	388	664	n/a	349	650	n/a	n/a	n/a
	Bertolli	288	**614**	303	257	497	n/a	417	329	n/a	n/a
	PG Tips	n/a	n/a	**361**	n/a	n/a	290	n/a	n/a	n/a	n/a
	Rolo	n/a	319	383	n/a	**417**	291	n/a	n/a	392	n/a
	Kenco	n/a	399	**495**	n/a	n/a	310	n/a	n/a	n/a	n/a

% Fixations = % of the total fixations made
% Time Spent = % of the total fixation time
% First Fixations = % of the fixations made on AOIs within the first 1000msec
Average Fixation Duration (msec) = average duration of fixations

FIG. 21-25: Colour Plots for Top 5 ranked Magazine Adverts (Persil, Bertolli, PG Tips, Rolo and Kenco)

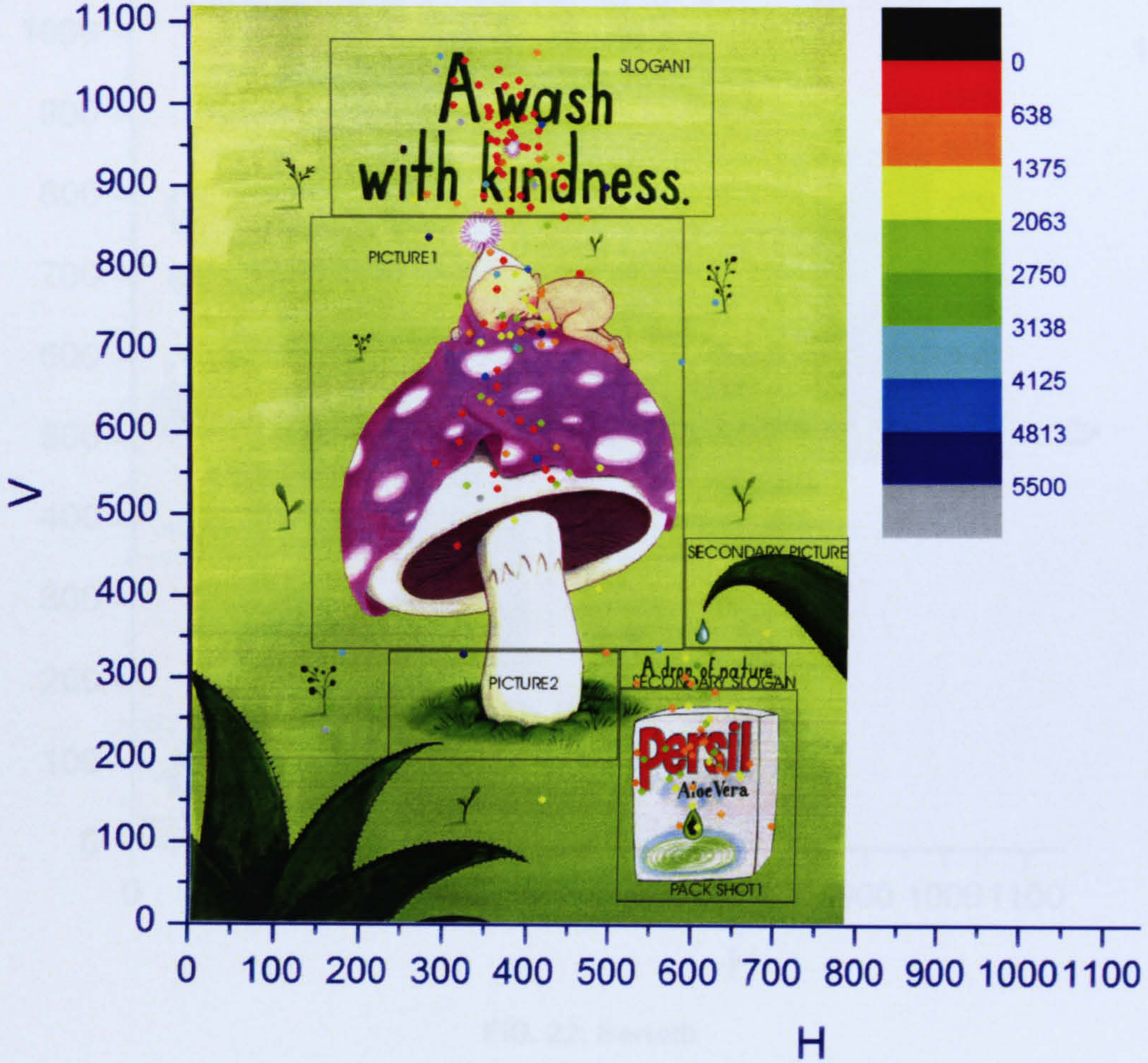

FIG.21 : Persil

The top ranked magazine adverts show a similar pattern of attention to posters, in that attention starts towards the top of the advert, especially if the main slogan is positioned there, and subjects work down through the advert, returning to the central area/picture later during exposure (shown here in the Persil ad by the blue fixation points on the central area). In adverts with a very prominent main picture or product image e.g. Bertolli, PG, a large number of initial fixations are drawn here. The fixation table above shows that the principal areas of interest (slogan, picture and pack shot) had the largest proportions of attention. The longest average fixation durations were on the slogan and pack shot. The Kenco advert with very few elements shows that the pack shot and slogan are the only areas the consumer can look at, and must be efficient at representing the overall message.

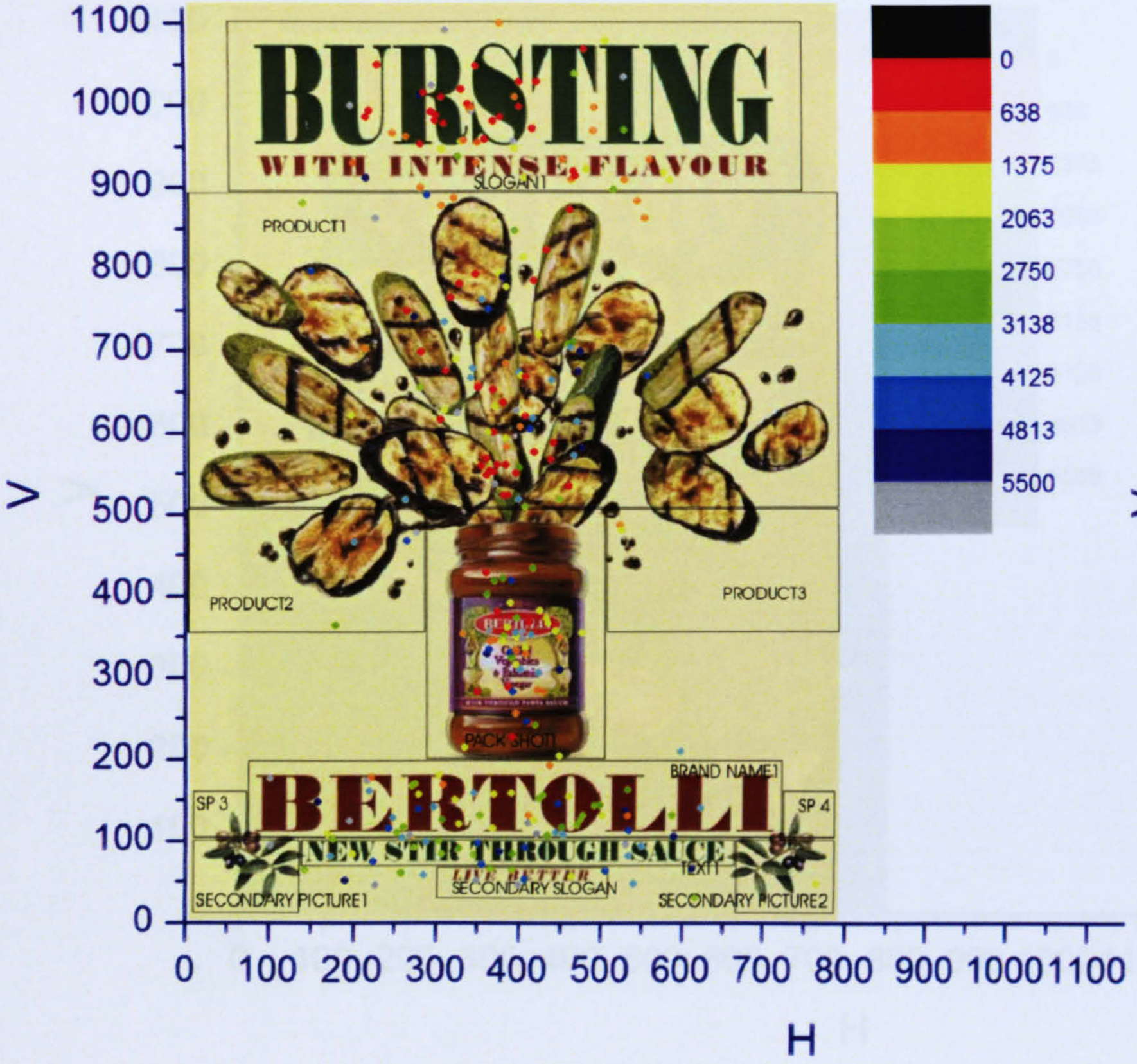

FIG. 22: Bertolli

FIG. 23: PG Tips

FIG. 24: Rolo

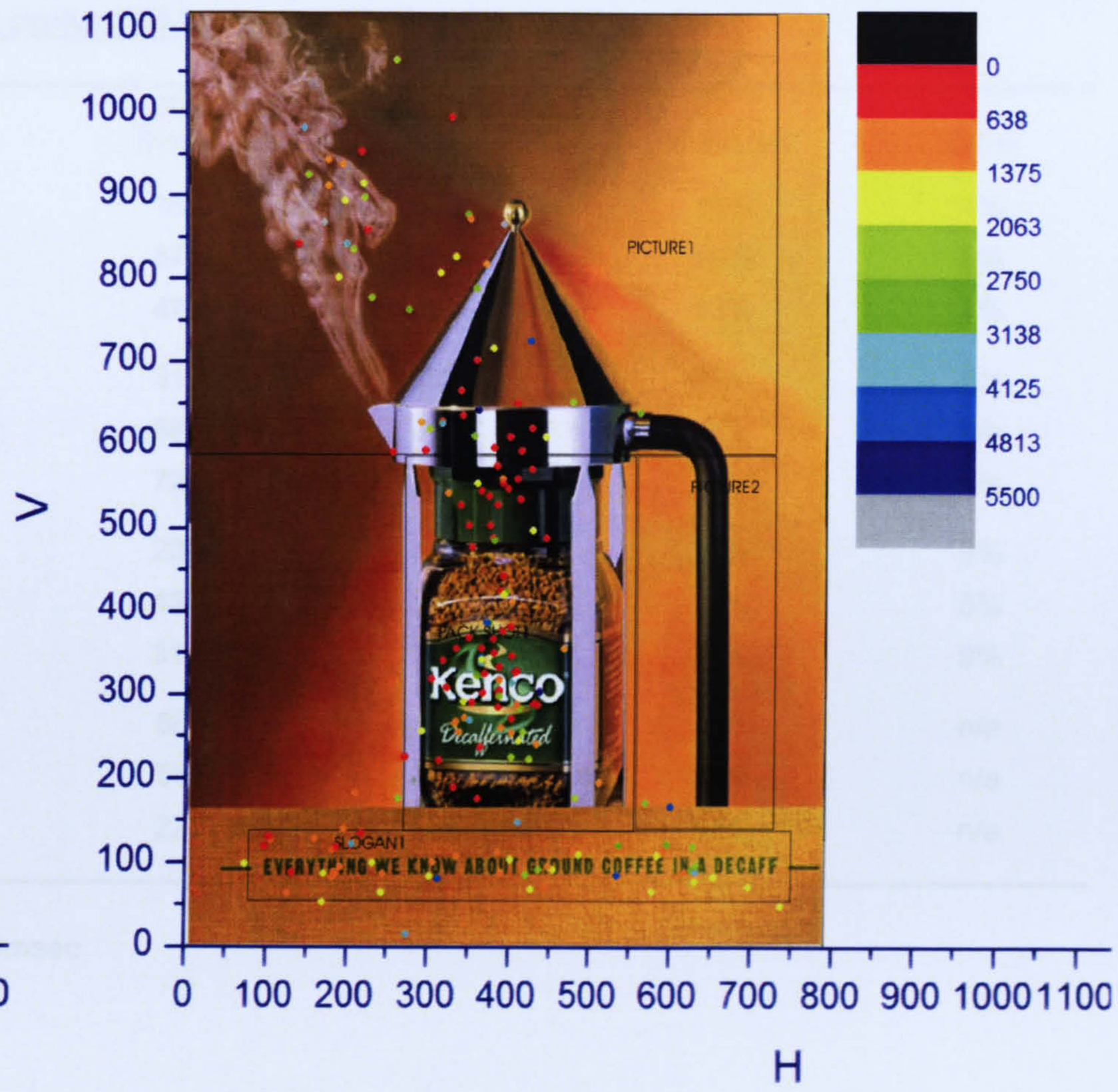

FIG. 25: Kenco

TABLE 31: Fixation Data for Top 3 ranked DM Adverts *(Front of Advert)*

		Area of Interest (AOI)					
	Ad	Brand Name	Pack Shot	Slogan	Picture	Persuader	Other
% Fixations	**Dove firming**	1%	18%	15%	**44%**	18%	4%
	Surf	n/a	n/a	37%	**47%**	10%	6%
	Imperial leather	11%	n/a	**47%**	22%	13%	7%
% First Fixations	**Dove firming**	0%	7%	31%	**39%**	23%	n/a
	Surf	n/a	n/a	**69%**	31%	0%	n/a
	Imperial leather	6%	n/a	**72%**	20%	2%	n/a
% Time Spent	**Dove firming**	1%	14%	20%	**40%**	22%	3%
	Surf	n/a	n/a	**43%**	39%	13%	5%
	Imperial leather	14%	n/a	**31%**	20%	26%	9%
Average Fixation Duration (msec)	**Dove firming**	350	401	**681**	478	626	n/a
	Surf	n/a	n/a	563	403	**638**	n/a
	Imperial leather	441	n/a	222	296	**661**	n/a

% Fixations = % of the total fixations made
% First Fixations = % of the fixations made on AOIs within the first 1000msec
% Time Spent = % of the total fixation time
Average Fixation Duration (msec) = average duration of fixations

FIG. 26-28: Colour Plots for Top 3 ranked DM Adverts - *Front of Advert*
(Dove firming, Surf powder and Imperial Leather)

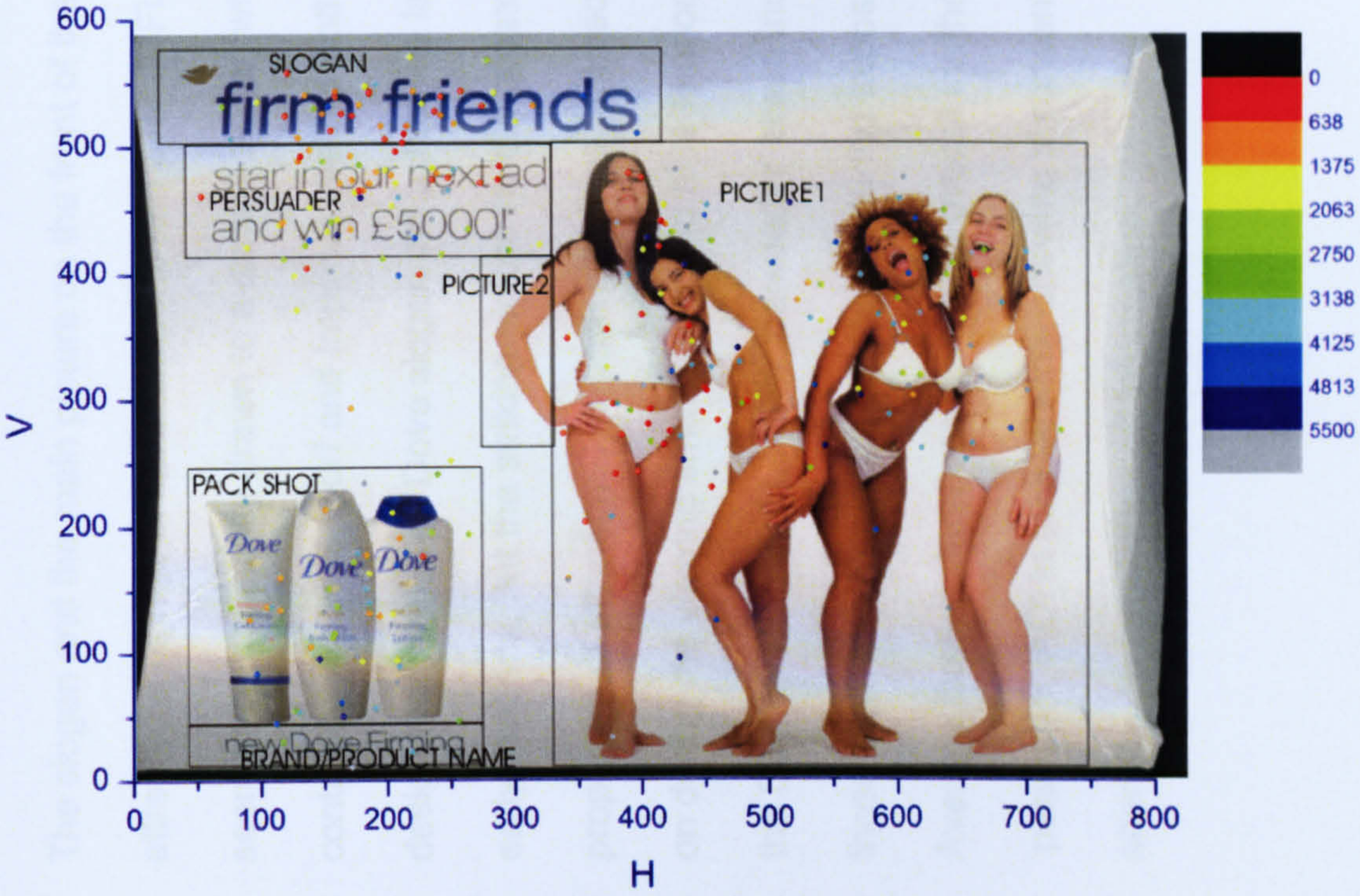

FIG. 26: Dove firming (Front of Advert)

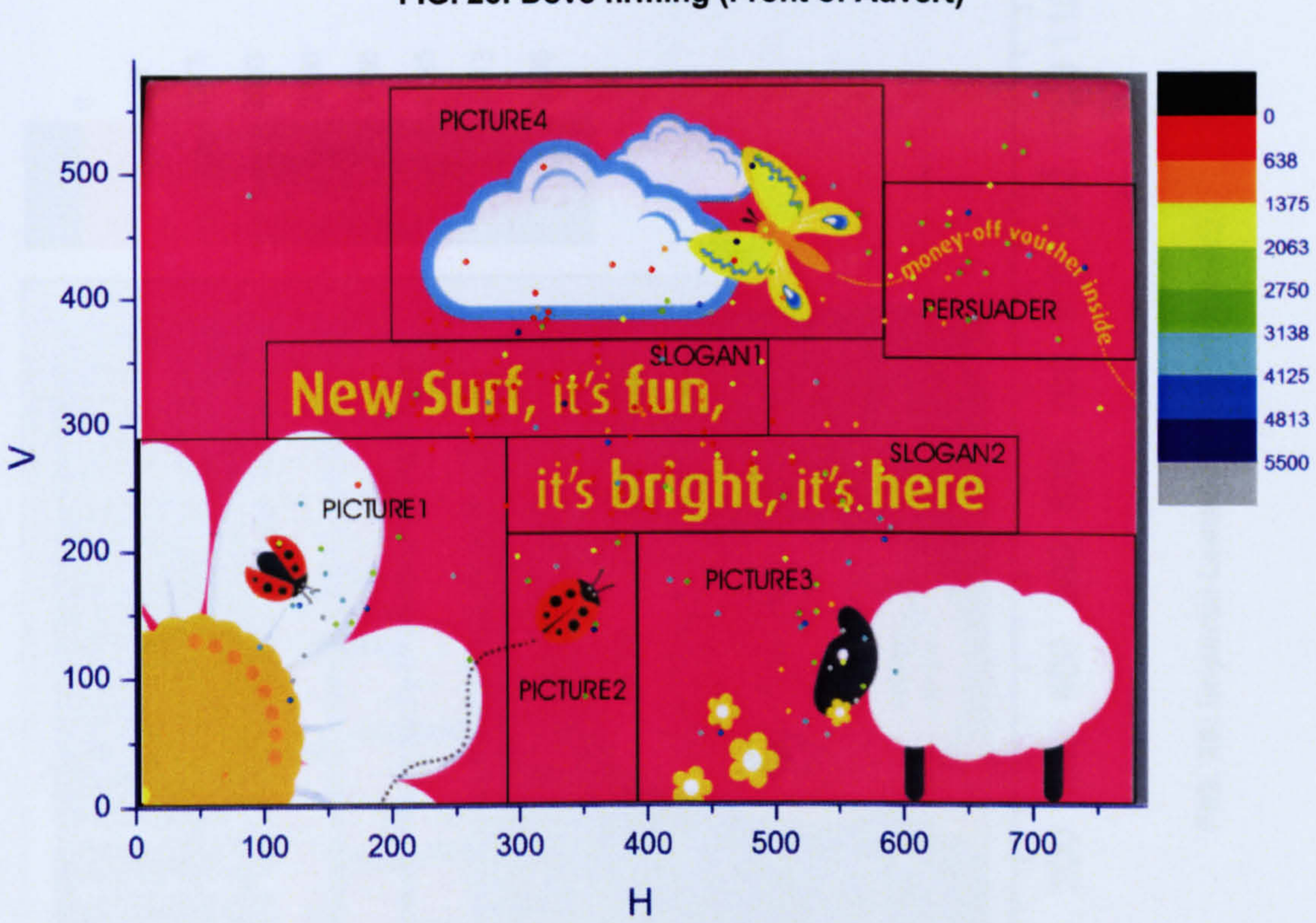

FIG. 27: Surf powder (Front of Advert)

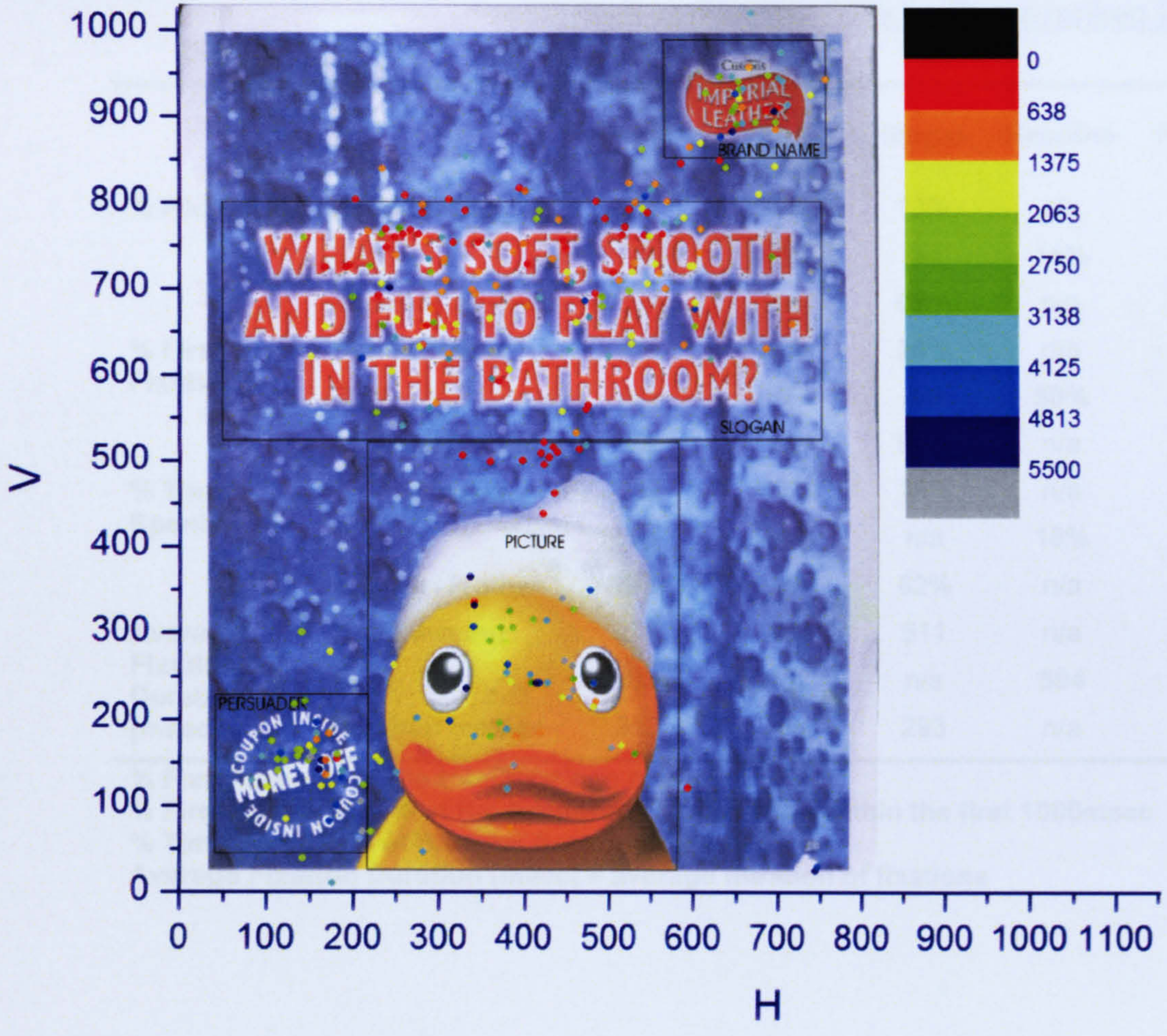

FIG. 28: Imperial Leather (Front of Advert)

The slogan and the main picture on the front of the advert attracted a high % of initial fixations and overall. Fixations seem to be especially drawn to a central slogan with contrasting colours (Surf and Imperial Leather both share this design element). The Dove slogan did achieve a large % of early fixations, but the striking picture held a greater proportion of attention. The pack shot was focused on later on during the viewing time. Green and blue fixation points on the Surf and Imperial Leather 'persuader' areas indicate that these elements were viewed later on during exposure. Average fixation durations were high overall for the 'persuader' AOI in all 3 adverts, showing a concentration of attention on the money-off information.

TABLE 32: Fixation Data for Top 3 ranked DM Adverts *(First Page of Advert)*

		Area of Interest (AOI)									
	Ad	Brand Name	Pack Shot	Slogan	Headline	Picture	Secondary Picture	Persuader	Instruction	Contact Information	Other
% Fixations	**Dove firming**	2%	17%	13%	n/a	**42%**	n/a	18%	n/a	n/a	8%
	Surf	n/a	**45%**	n/a	14%	6%	4%	n/a	28%	n/a	3%
	Imperial leather	18%	n/a	**69%**	n/a	n/a	n/a	n/a	n/a	7%	6%
% First Fixations	**Dove firming**	0%	8%	24%	n/a	**39%**	n/a	28%	n/a	n/a	n/a
	Surf	n/a	19%	n/a	**50%**	6%	3%	n/a	22%	n/a	n/a
	Imperial leather	1%	n/a	**97%**	n/a	n/a	n/a	n/a	n/a	1%	n/a
% Time Spent	**Dove firming**	1%	17%	15%	n/a	**41%**	n/a	20%	n/a	n/a	6%
	Surf	n/a	**44%**	n/a	18%	5%	2%	n/a	27%	n/a	4%
	Imperial leather	19%	n/a	**62%**	n/a	n/a	n/a	n/a	n/a	11%	8%
Average Fixation Duration (msec)	**Dove firming**	284	450	511	n/a	437	n/a	**513**	n/a	n/a	n/a
	Surf	n/a	432	n/a	**594**	429	309	n/a	423	n/a	n/a
	Imperial leather	350	n/a	293	n/a	n/a	n/a	n/a	n/a	**509**	n/a

% Fixations = % of the total fixations made
% First Fixations = % of the fixations made on AOIs within the first 1000msec
% Time Spent = % of the total fixation time
Average Fixation Duration (msec) = average duration of fixations

FIG. 29-31: Colour Plots for Top 3 ranked DM Adverts - *First Page of Advert*
(Dove firming, Surf powder and Imperial Leather)

FIG. 29: Dove firming (First Page of Advert)

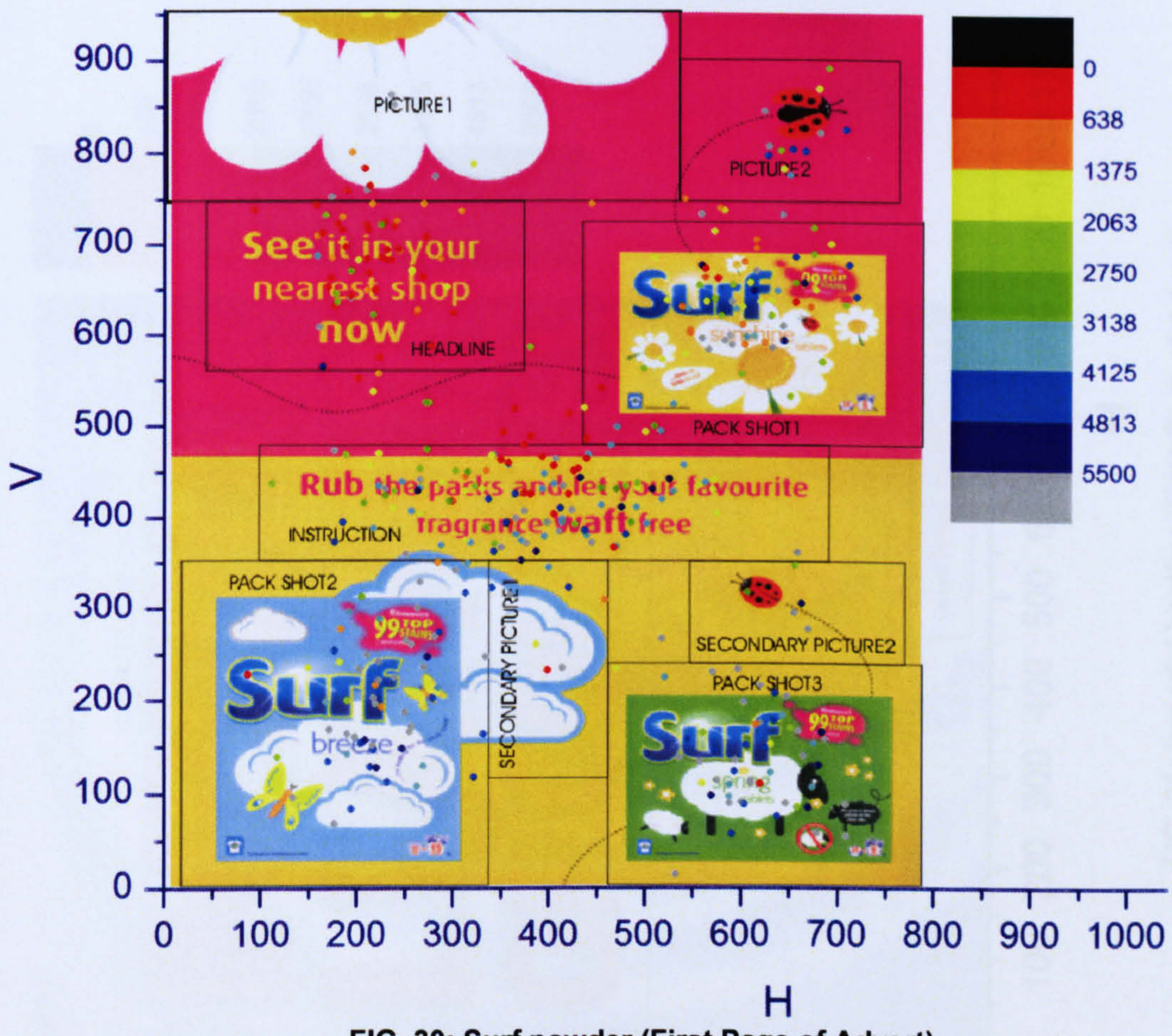

FIG. 30: Surf powder (First Page of Advert)

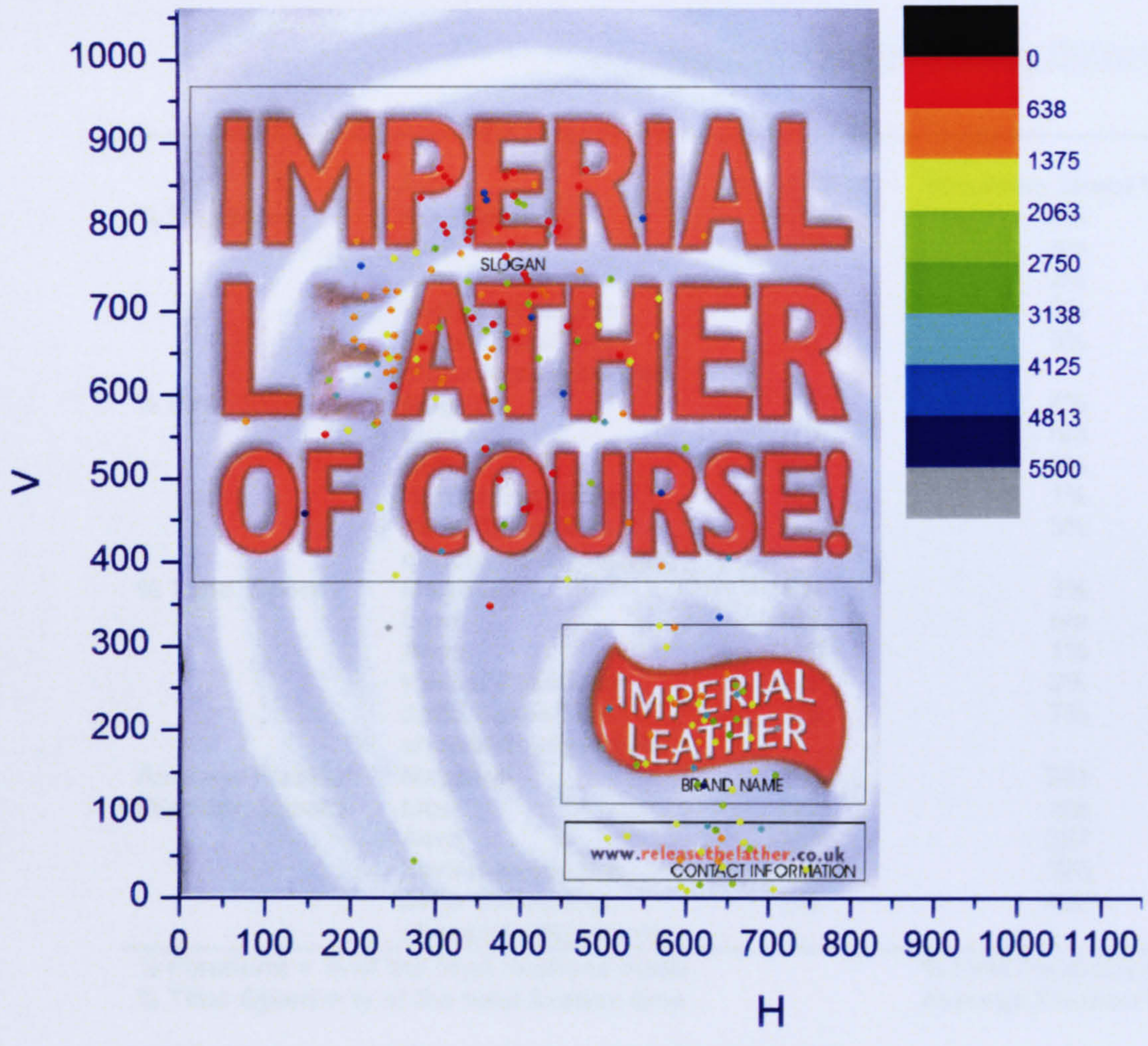

FIG. 31: Imperial Leather (First Page of Advert)

The first page of the Dove advert is the same format as the front section and the pattern of attention appears to be repeated (again a large % of the time spent is focused on the picture). The areas of interest increase in number and variety on the first page of the Surf ad. The pack shot areas gained the most fixations overall (and the highest % time spent), with the remaining % being distributed among the various other areas. The main text *i.e.* the headline and instruction captured a relatively large proportion of this attention. Most of the attention on the first page of the Imperial Leather ad (left) is focused on the dominant slogan. The brand name is attended to but not as much, and also later on during exposure (illustrated by green and yellow colour-coded fixation points).

TABLE 33: Fixation Data for Bottom 5 ranked Poster Adverts

		Area of Interest (AOI)						
	Ad	Brand Name	Secondary Brand Name	Pack Shot	Slogan	Picture (Product)	Information	Other
% Fixations	**Magnum**	12%	5%	n/a	4%	**76%** (19%)	n/a	3%
	Lion	15%	n/a	n/a	27%	**54%**	n/a	4%
	Aero	30%	2%	n/a	**57%**	n/a	2%	9%
	Herbal Essences	n/a	3%	21%	31%	**45%**	n/a	0%
	Jaffa Cakes/Milk chocolate digestives	n/a	5%	**57%**	19%	7%	n/a	12%
% First Fixations	**Magnum**	9%	4%	n/a	4%	**67%** (17%)	n/a	n/a
	Lion	17%	n/a	n/a	**48%**	34%	n/a	n/a
	Aero	22%	0%	n/a	**78%**	n/a	0%	n/a
	Herbal Essences	n/a	1%	11%	**44%**	43%	n/a	n/a
	Jaffa Cakes/Milk chocolate digestives	n/a	3%	**75%**	18%	3%	n/a	n/a
% Time Spent	**Magnum**	9%	3%	n/a	3%	**82%** (21%)	n/a	3%
	Lion	18%	n/a	n/a	31%	**48%**	n/a	3%
	Aero	34%	1%	n/a	**57%**	n/a	2%	6%
	Herbal Essences	n/a	2%	20%	**42%**	37%	n/a	0%
	Jaffa Cakes/Milk chocolate digestives	n/a	7%	**69%**	11%	6%	n/a	7%
Average Fixation Duration (msec)	**Magnum**	295	231	n/a	299	**405** (413)	n/a	n/a
	Lion	**582**	n/a	n/a	544	423	n/a	n/a
	Aero	**368**	237	n/a	326	n/a	257	n/a
	Herbal Essences	n/a	326	360	**532**	320	n/a	n/a
	Jaffa Cakes/Milk chocolate digestives	n/a	**432**	417	206	305	n/a	n/a

% Fixations = % of the total fixations made
% Time Spent = % of the total fixation time
% First Fixations = % of the fixations made on AOIs within the first 1000msec
Average Fixation Duration (msec) = average duration of fixations

NOTE: (Grey text indicates an area within another AOI)

FIG. 32-36: Colour Plots for Bottom 5 ranked Poster Adverts (Magnum, Lion, Aero, Herbal Essences, and Jaffa Cakes/Milk chocolate digestives)

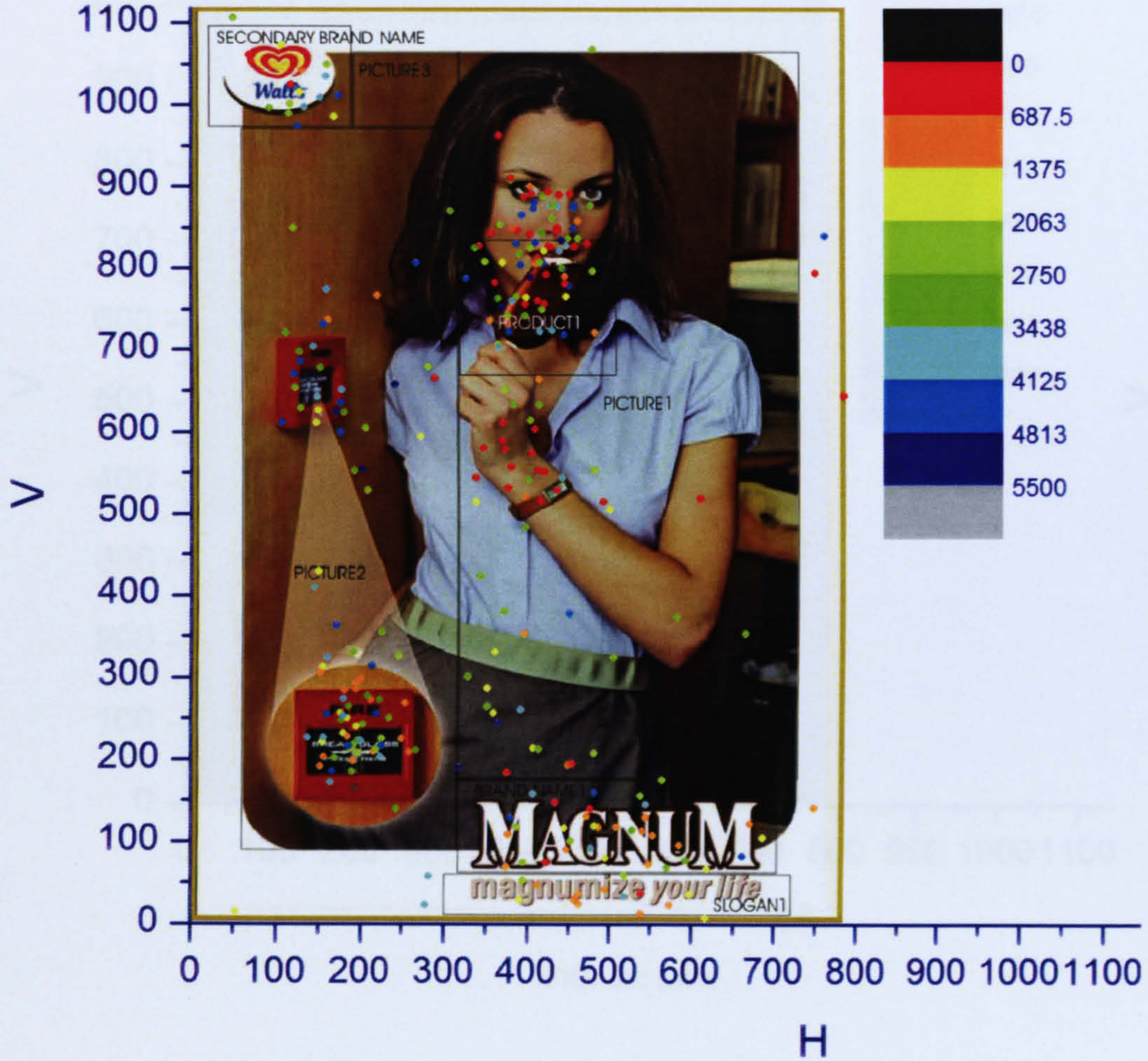

FIG. 32: Magnum

The pattern of gaze for the bottom ranked poster adverts seems to be more exploratory. Fixations are clustered around certain pictorial elements and in some cases *i.e.* the Magnum advertisement shown here, the colour points show that attention is returned to these aspects as if participants needed 'a second look'. In the Magnum advert these elements are the female, the fire alarm and the alarm close up, which tell the story, or portray the main advertising message (the same pattern is evident in the magazine version of this advert also). In the Lion poster ad (below), attention seems to to-and-fro between the picture of the rhino and the slogan, which again are the elements that subjects need to concentrate on in order for the advert to communicate its primary message.

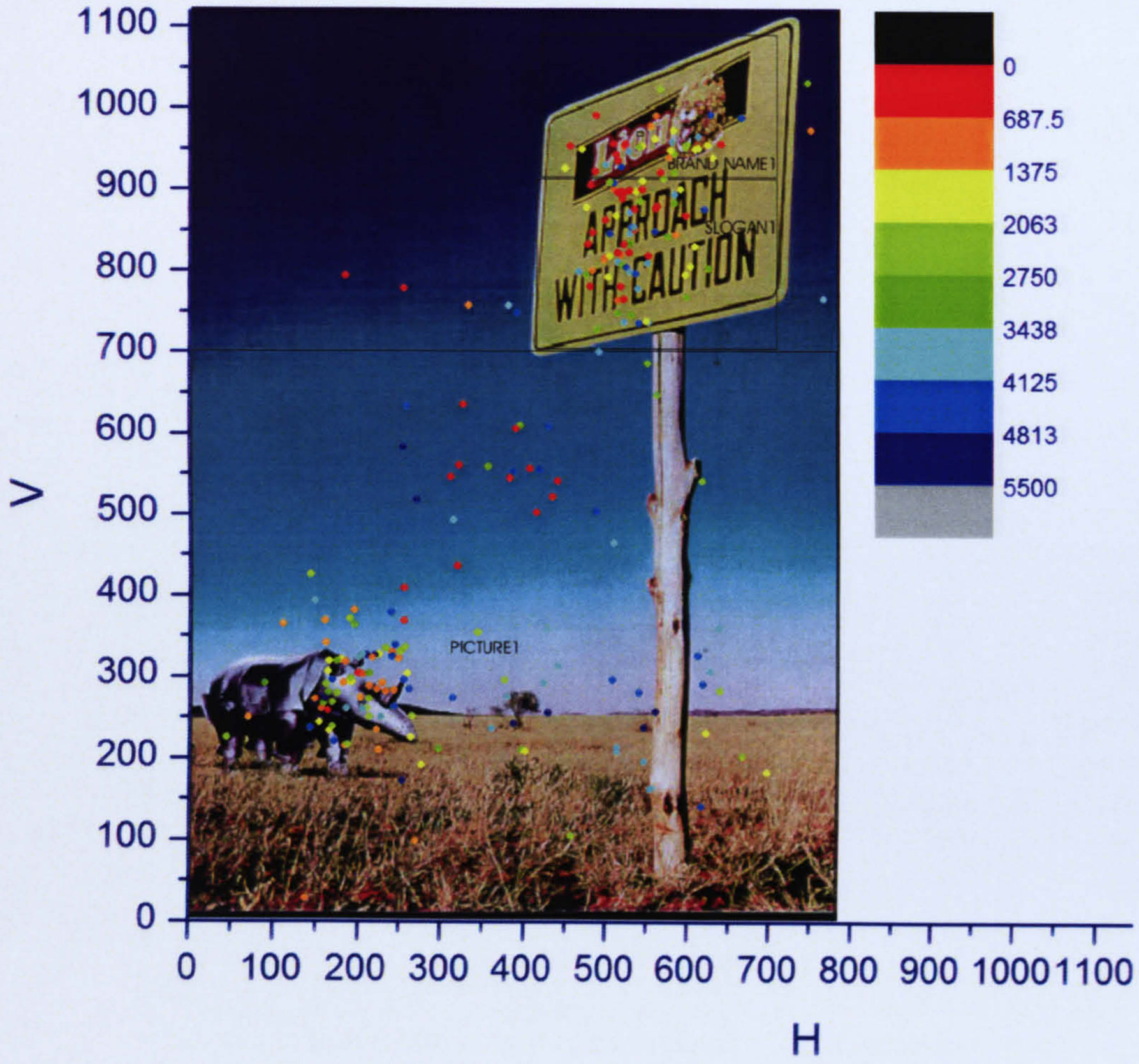

FIG. 33: Lion

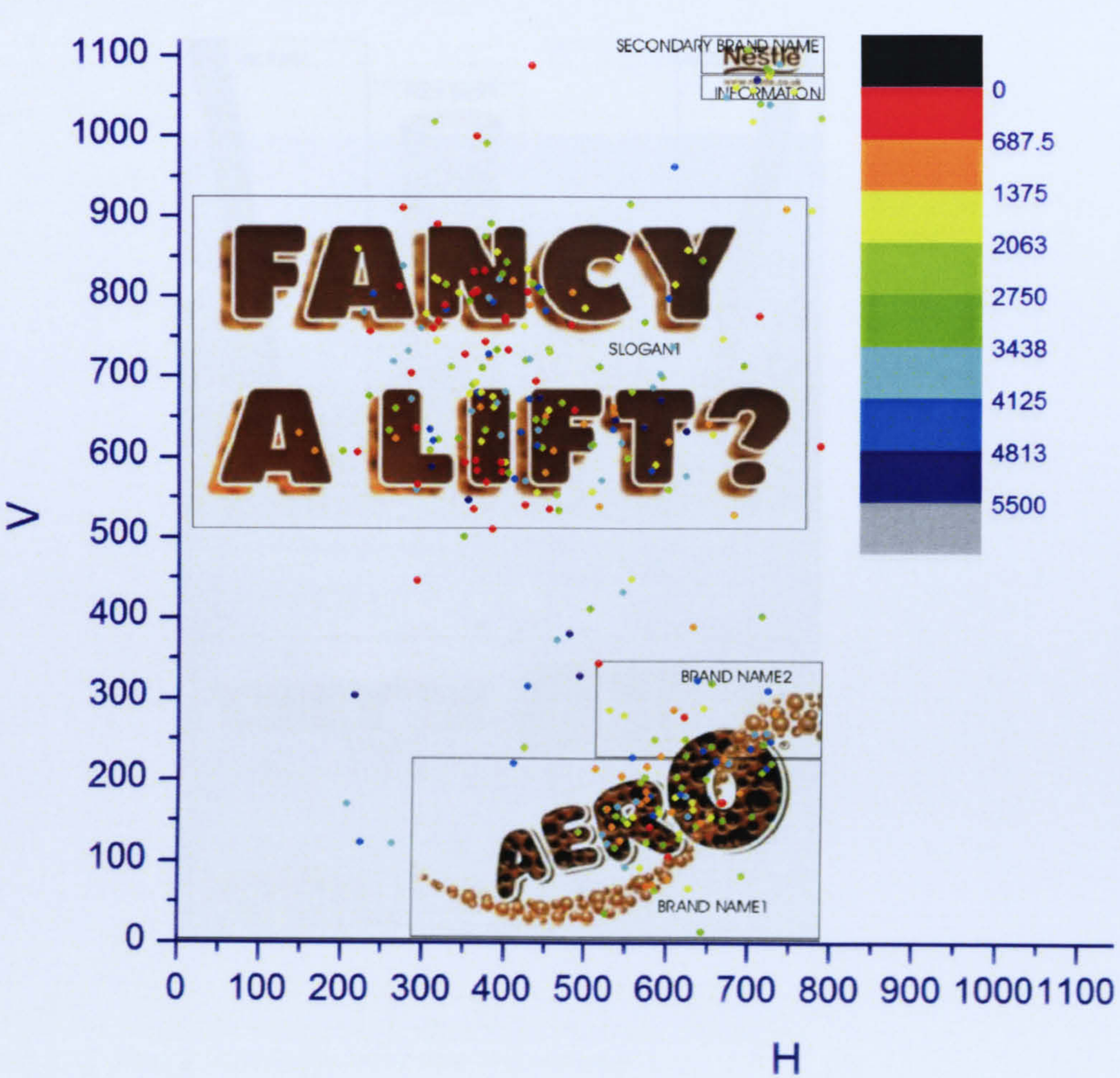

FIG. 34: Aero

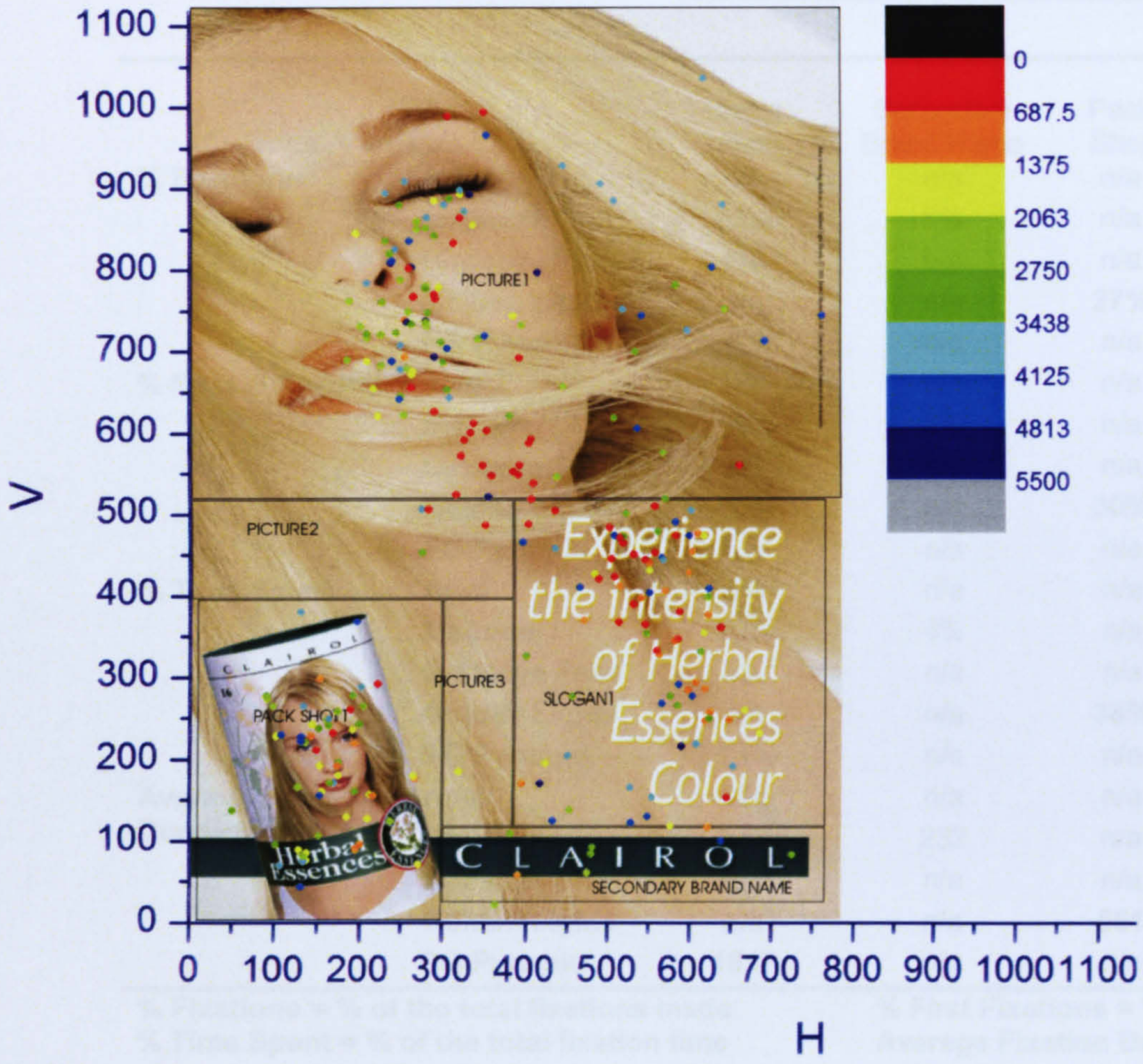

FIG. 35: Herbal Essences

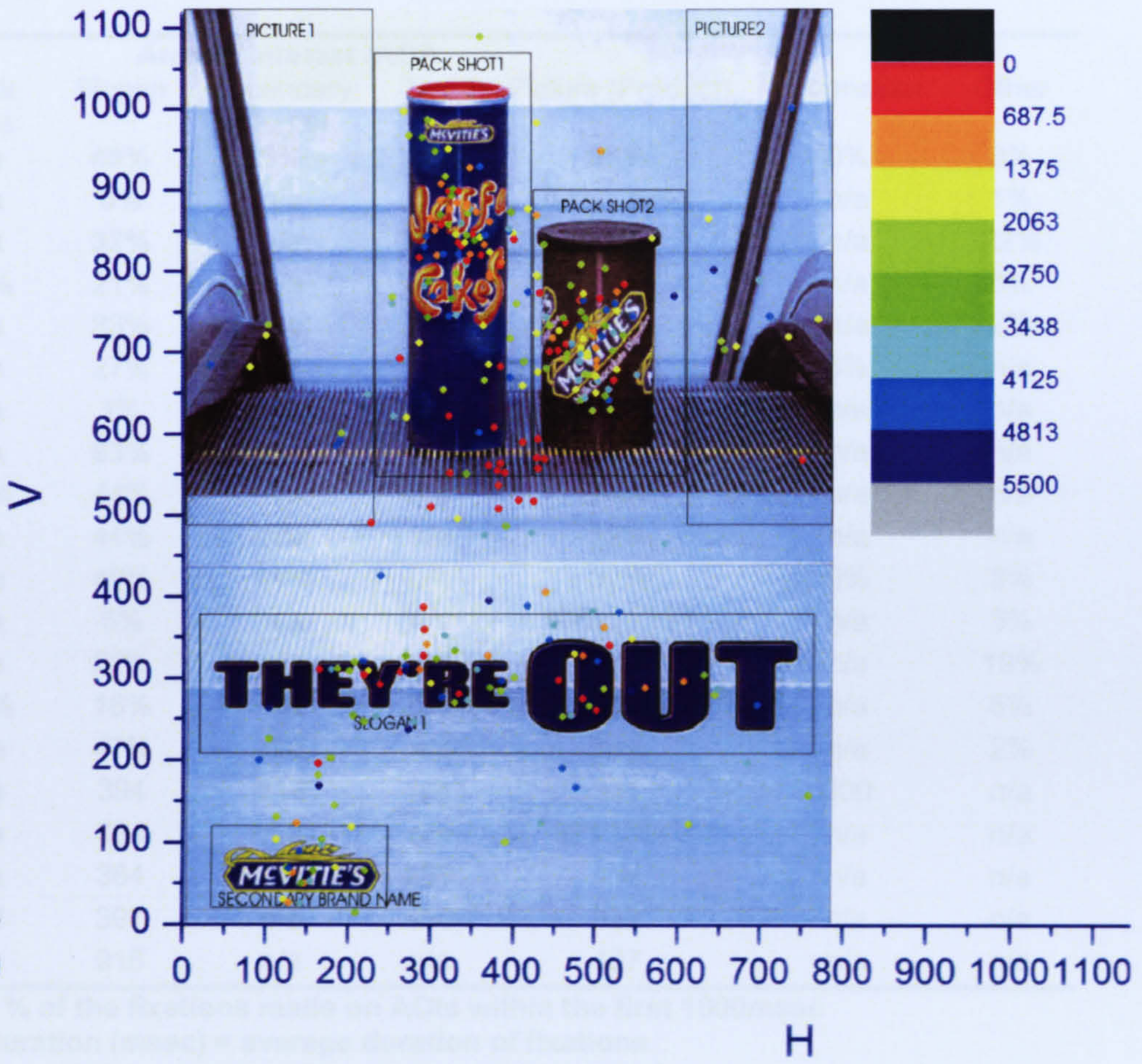

FIG. 36: Jaffa Cakes/Milk chocolate digestives

TABLE 34: Fixation Data for Bottom 5 ranked Magazine Adverts

		Area of Interest (AOI)								
	Ad	Brand Name	Secondary Brand Name	Pack Shot	Slogan	Secondary Slogan	Text	Picture (Product)	Information	Other
% Fixations	**Ariel**	5%	n/a	n/a	**49%**	5%	n/a	38%	0%	3%
	Magnum	23%	6%	n/a	6%	n/a	n/a	**64%** (10%)	n/a	1%
	Birdseye Peas	5%	n/a	n/a	**32%**	n/a	26%	15%	n/a	22%
	Golden Lights	n/a	n/a	**27%**	21%	n/a	22%	24%	n/a	6%
	PG Pyramid	5%	n/a	n/a	33%	n/a	n/a	**60%**	n/a	2%
% First Fixations	**Ariel**	0%	n/a	n/a	27%	1%	n/a	**72%**	0%	n/a
	Magnum	25%	3%	n/a	1%	n/a	n/a	**56%** (15%)	n/a	n/a
	Birdseye Peas	2%	n/a	n/a	**83%**	n/a	2%	14%	n/a	n/a
	Golden Lights	n/a	n/a	30%	**44%**	n/a	1%	24%	n/a	n/a
	PG Pyramid	5%	n/a	n/a	44%	n/a	n/a	**52%**	n/a	n/a
% Time Spent	**Ariel**	6%	n/a	n/a	**49%**	11%	n/a	32%	0%	2%
	Magnum	20%	4%	n/a	5%	n/a	n/a	**68%** (10%)	n/a	3%
	Birdseye Peas	3%	n/a	n/a	22%	n/a	**44%**	12%	n/a	19%
	Golden Lights	n/a	n/a	**38%**	18%	n/a	22%	17%	n/a	5%
	PG Pyramid	13%	n/a	n/a	**47%**	n/a	n/a	38%	n/a	2%
Average Fixation Duration (msec)	**Ariel**	466	n/a	n/a	394	**813**	n/a	331	200	n/a
	Magnum	313	232	n/a	334	n/a	n/a	**371** (354)	n/a	n/a
	Birdseye Peas	310	n/a	n/a	364	n/a	**860**	414	n/a	n/a
	Golden Lights	n/a	n/a	**651**	397	n/a	469	332	n/a	n/a
	PG Pyramid	**1817**	n/a	n/a	916	n/a	n/a	407	n/a	n/a

% Fixations = % of the total fixations made
% Time Spent = % of the total fixation time
% First Fixations = % of the fixations made on AOIs within the first 1000msec
Average Fixation Duration (msec) = average duration of fixations

NOTE: (Grey text indicates an area within another AOI)

FIG. 37-41: Colour Plots for Bottom 5 ranked Magazine Adverts (Ariel, Magnum, Birdseye Peas, Golden Lights and PG Pyramid)

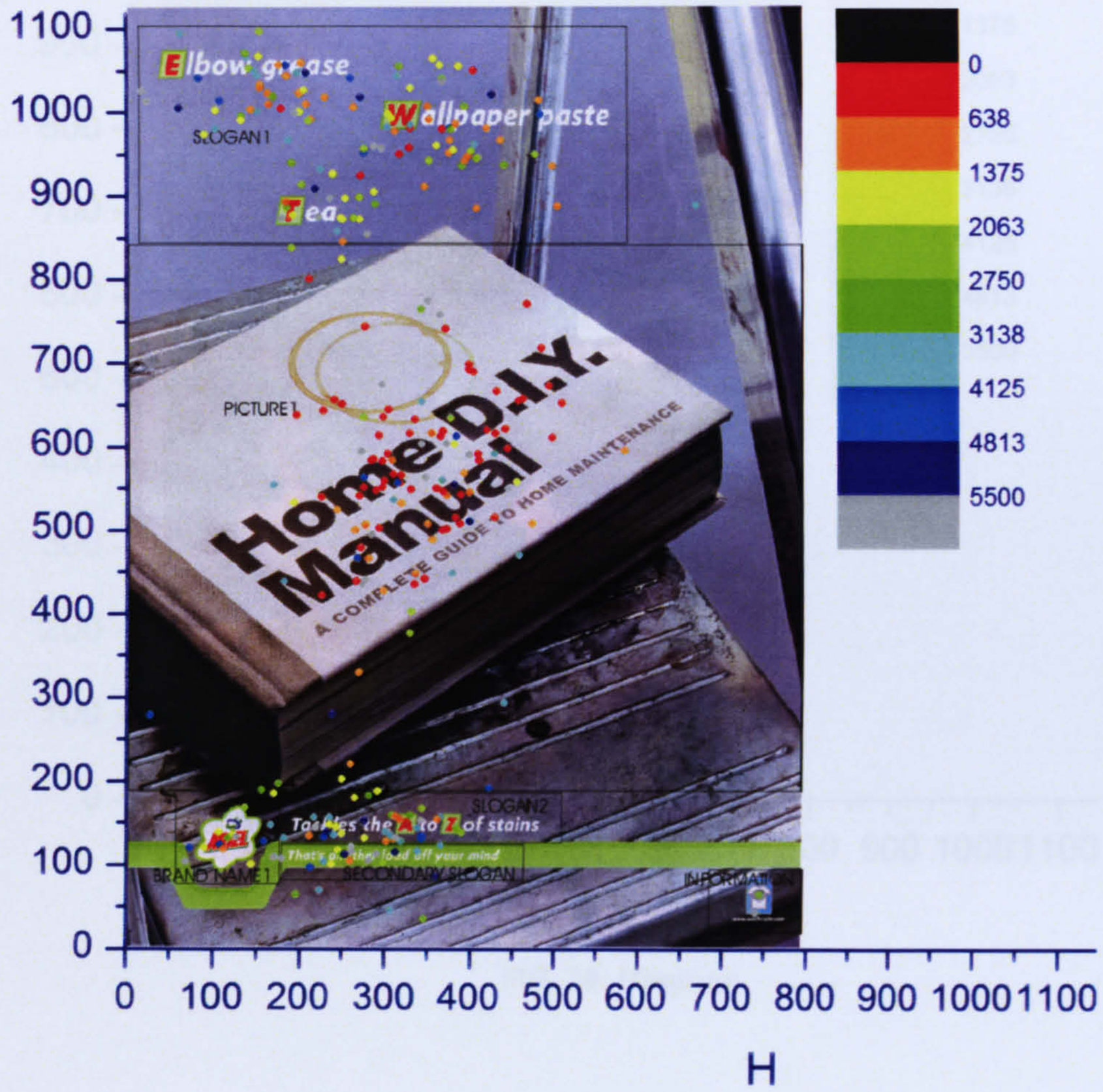

FIG. 37: Ariel

Eye-movement plots for the bottom ranked adverts show concentrated clusters of attention on key ad elements as subjects look to identify the ad message. These are often focused on the slogan. Again, a prominent central area (see Ariel advert, left) will trigger an initial focus of attention. The fixation table above highlights that initial and overall proportions of attention are on the slogan and pictorial areas *i.e.* the most prominent areas and the areas which can contribute to the consumer's understanding of the ad message. The magazine version of the Magnum ad shows the same distribution of attention as the poster version. Attention is centred on the components of the main picture that 'tell the story' of the ad (the fire alarm, fire alarm close up and the female model). In ads where the brand name is shown, this is attended to, but not generally during the first second of exposure.

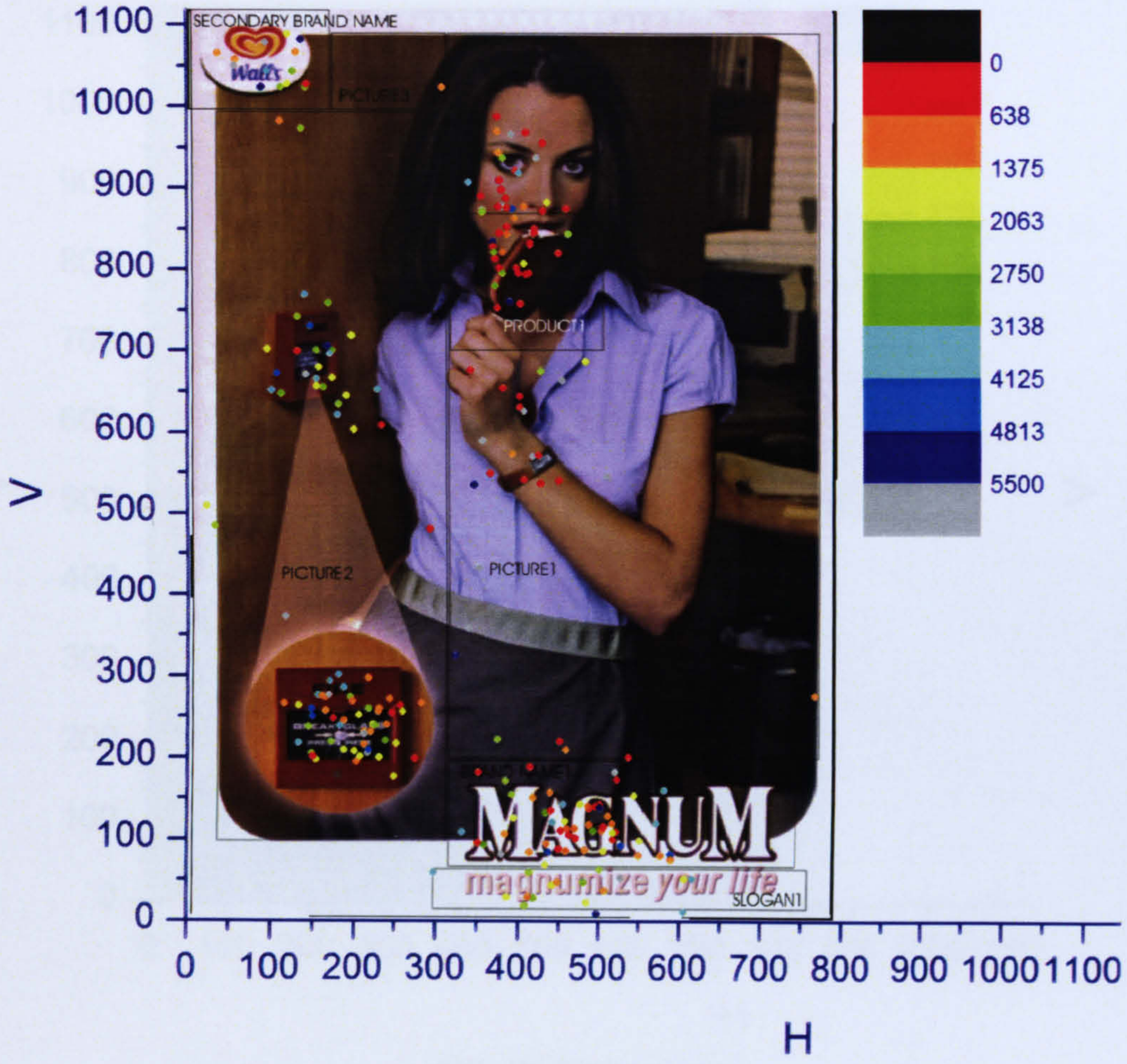

FIG. 38: Magnum

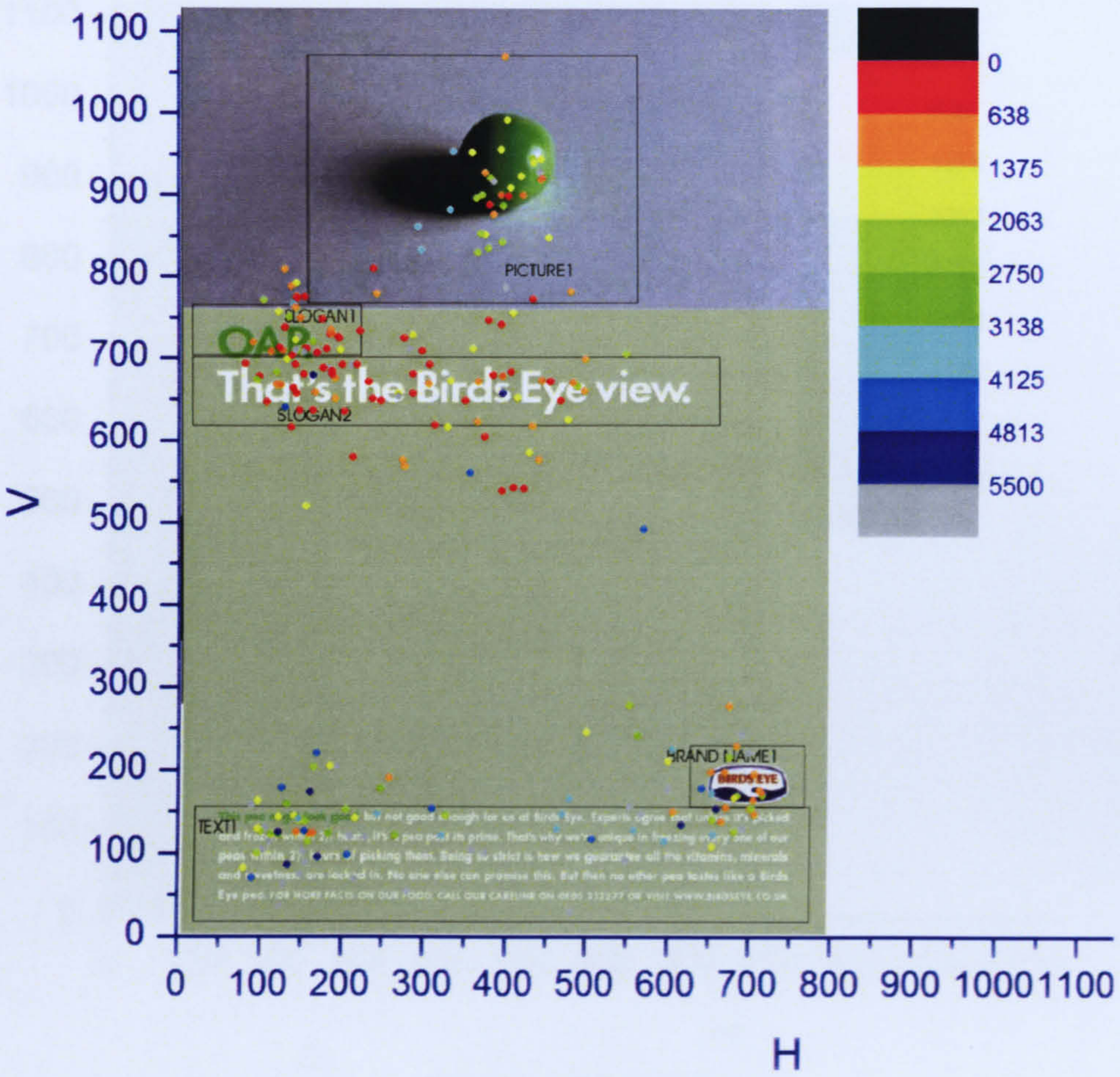

FIG. 39: Birdseye Peas

FIG. 40: Golden Lights

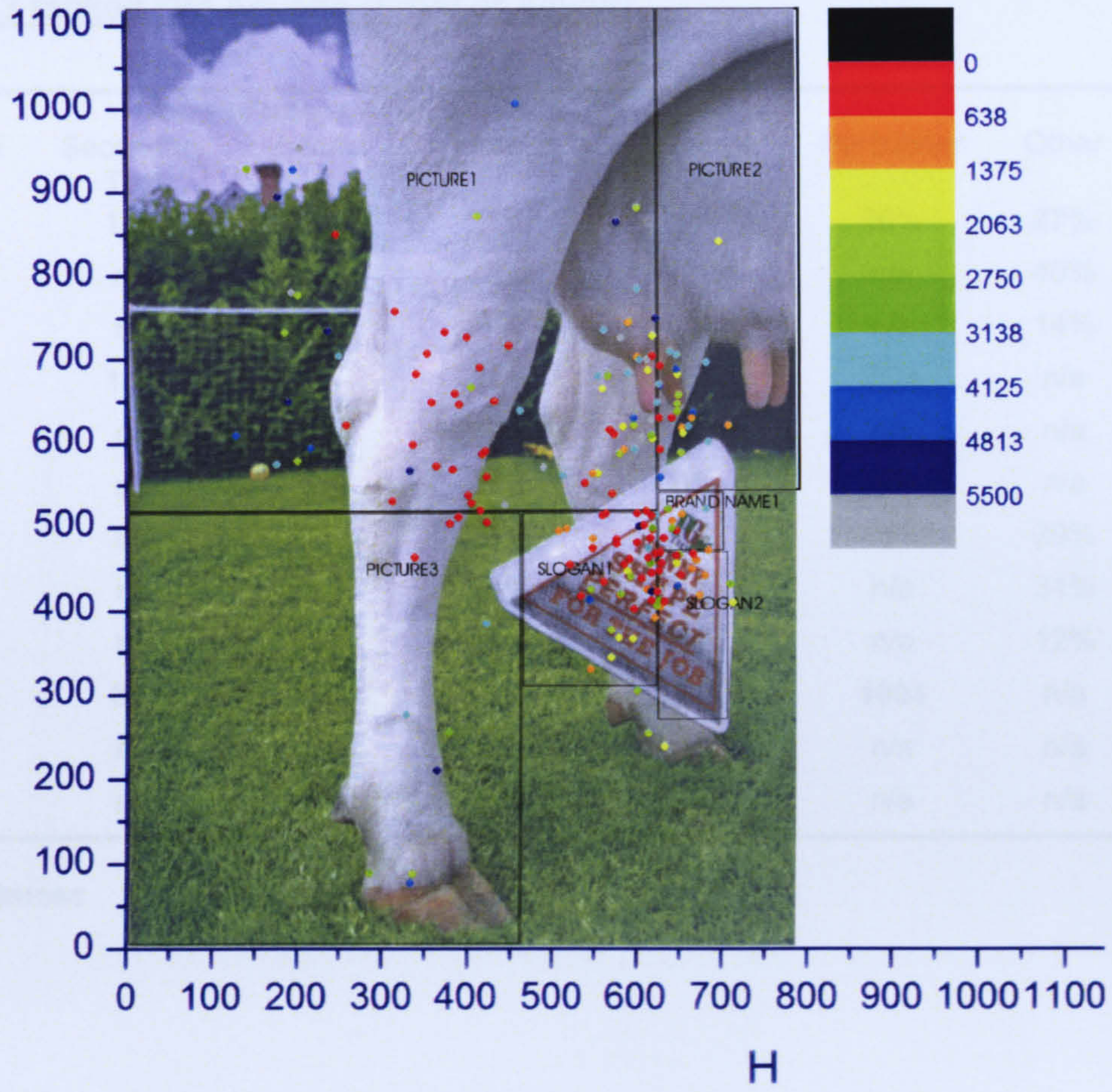

FIG. 41: PG Pyramid

TABLE 35: Fixation Data for Bottom 3 ranked DM Adverts *(Front of Advert)*

		Area of Interest (AOI)								
	Ad	Brand Name	Product Name	Slogan	Secondary Text	Picture	Address	Postmark	Persuader	Other
% Fixations	**Sure**	n/a	n/a	n/a	10%	7%	25%	5%	26%	**27%**
	PG Tips	n/a	n/a	n/a	n/a	n/a	**43%**	17%	n/a	40%
	Comfort Pure	9%	5%	22%	n/a	**35%**	8%	7%	n/a	14%
% First Fixations	**Sure**	n/a	n/a	n/a	14%	6%	**51%**	6%	24%	n/a
	PG Tips	n/a	n/a	n/a	n/a	n/a	**79%**	21%	n/a	n/a
	Comfort Pure	**31%**	18%	12%	n/a	12%	22%	4%	n/a	n/a
% Time Spent	**Sure**	n/a	n/a	n/a	6%	5%	21%	3%	**45%**	20%
	PG Tips	n/a	n/a	n/a	n/a	n/a	**57%**	12%	n/a	31%
	Comfort Pure	12%	8%	21%	n/a	**33%**	10%	4%	n/a	12%
Average Fixation Duration (msec)	**Sure**	n/a	n/a	n/a	371	426	480	327	**1003**	n/a
	PG Tips	n/a	n/a	n/a	n/a	n/a	**546**	284	n/a	n/a
	Comfort Pure	511	**623**	380	n/a	378	508	265	n/a	n/a

% Fixations = % of the total fixations made
% First Fixations = % of the fixations made on AOIs within the first 1000msec
% Time Spent = % of the total fixation time
Average Fixation Duration (msec) = average duration of fixations

FIG. 42-44: Colour Plots for Bottom 3 ranked DM Adverts - *Front of Advert* (Sure, PG Tips and Comfort Pure)

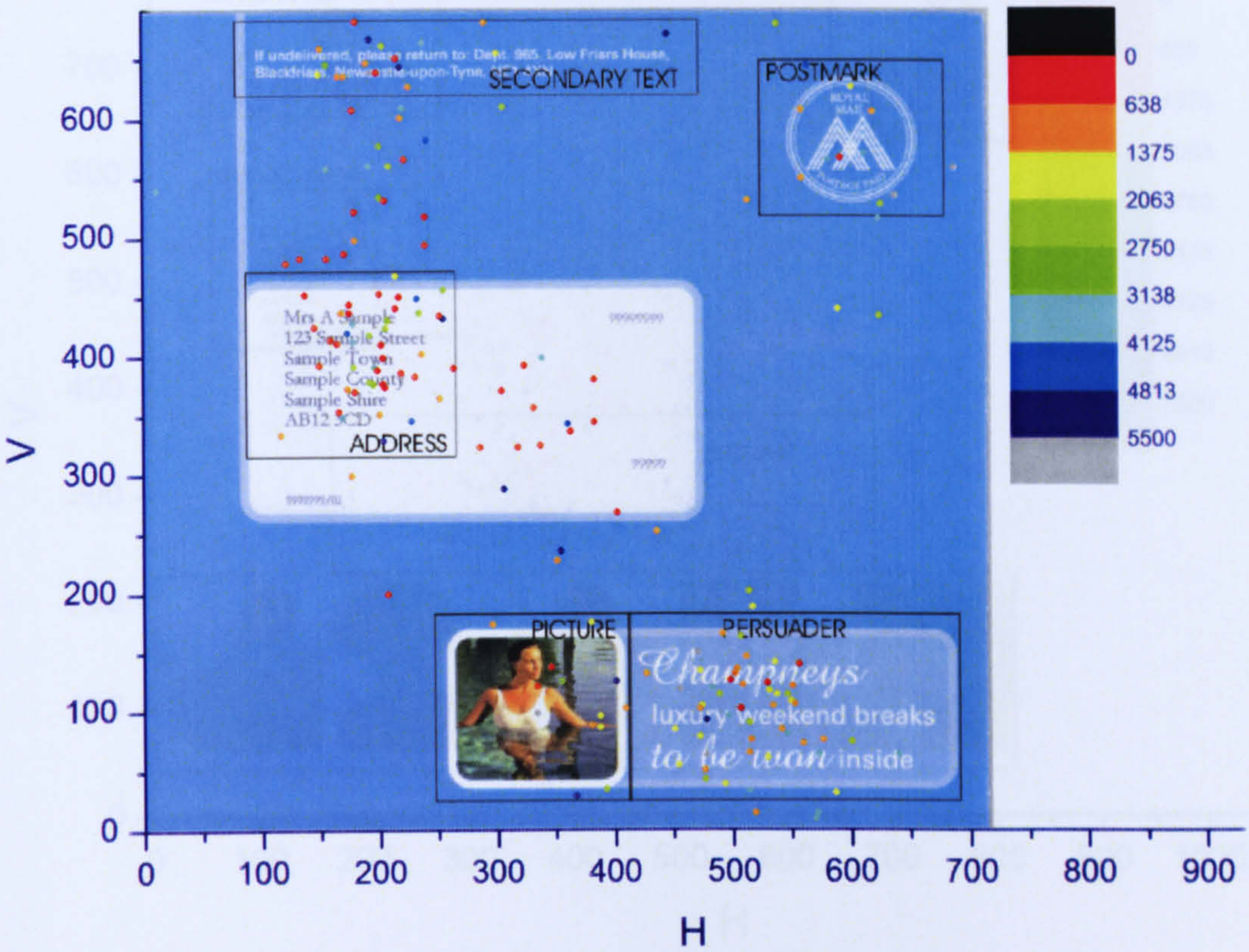

FIG. 42: Sure (Front of Advert)

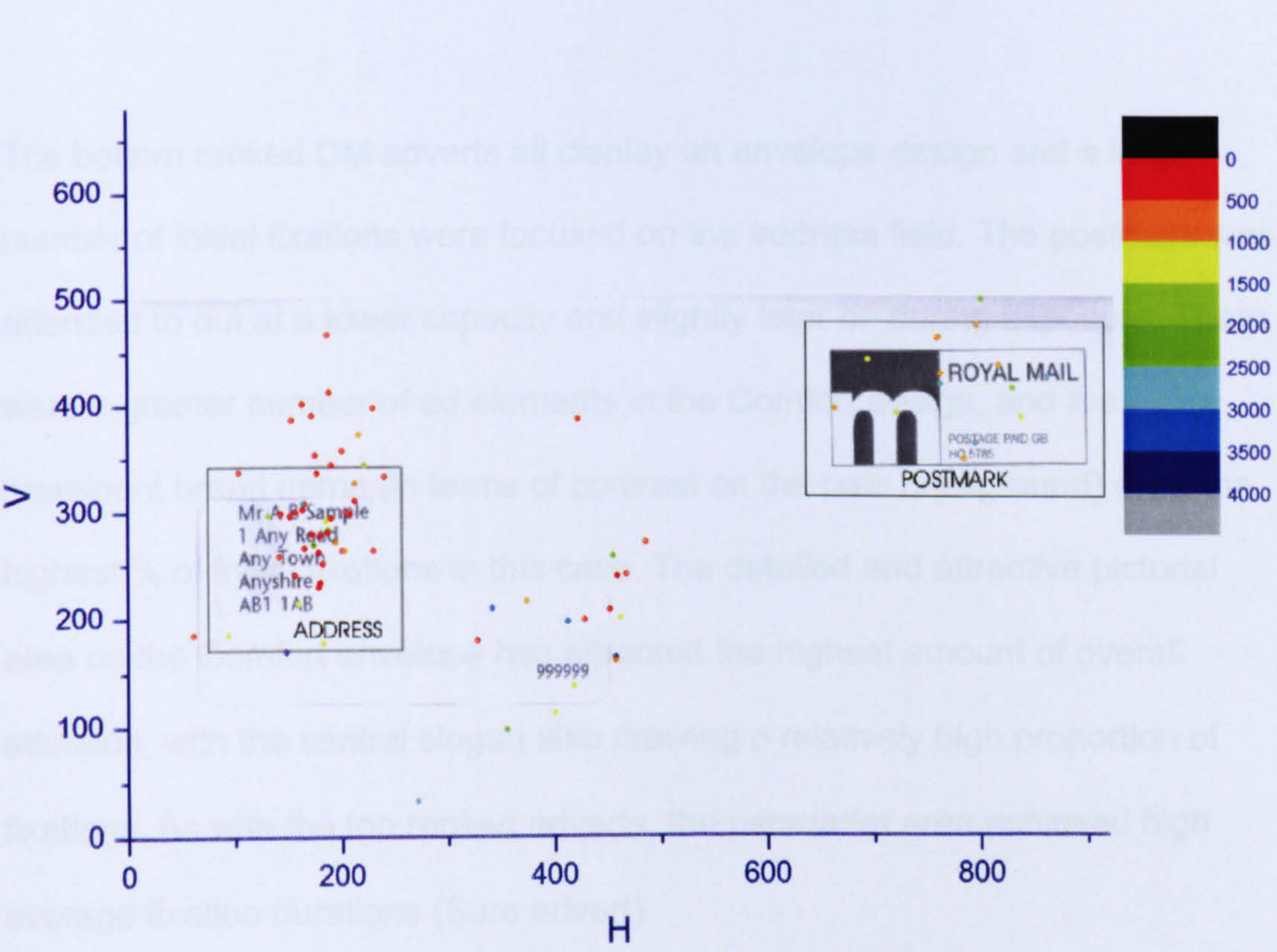

FIG. 43: PG Tips (Front of Advert)

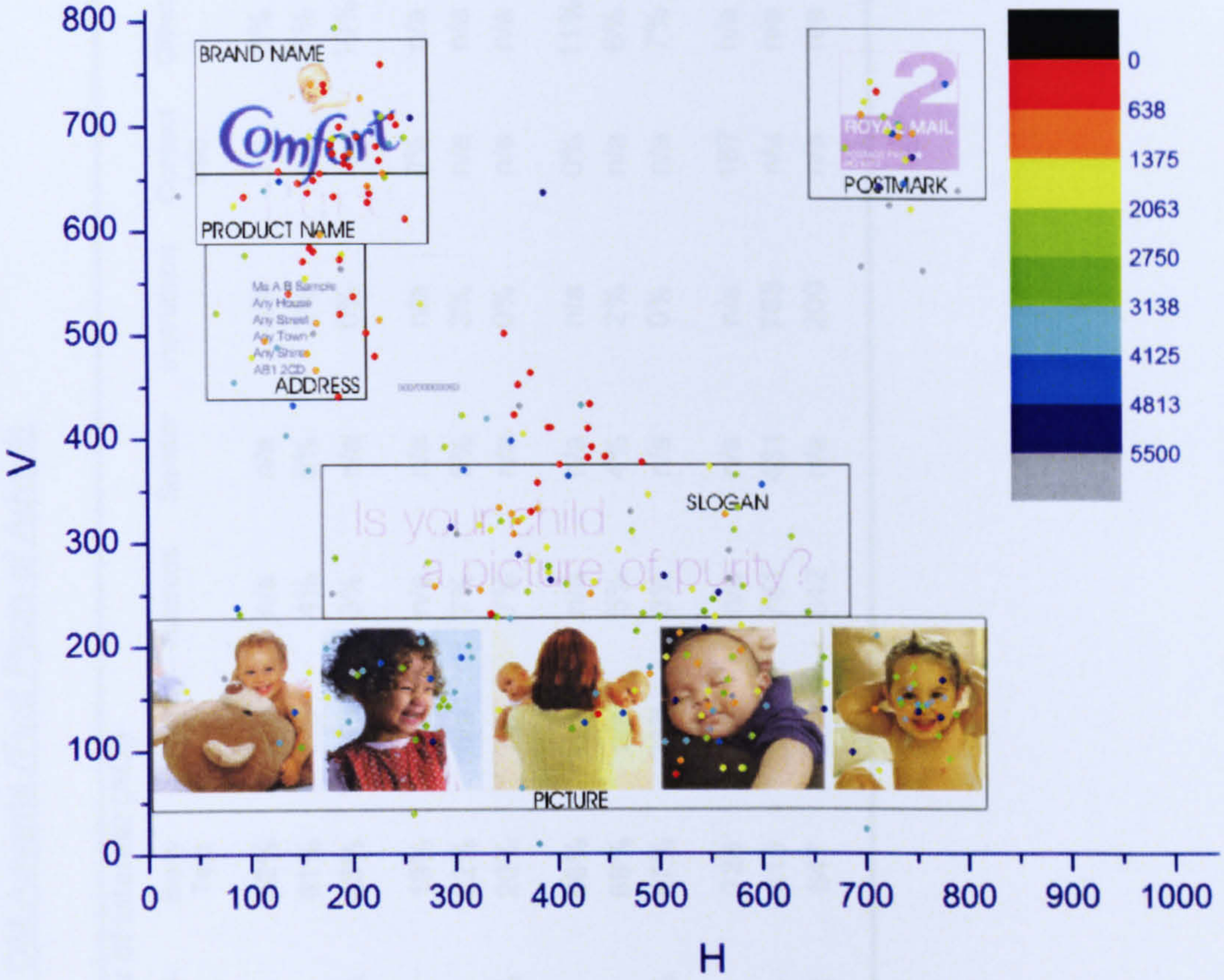

FIG. 44: Comfort Pure (Front of Advert)

The bottom ranked DM adverts all display an envelope design and a large number of initial fixations were focused on the address field. The postmark was attended to but at a lower capacity and slightly later on during exposure. There were a greater number of ad elements in the Comfort design, and the prominent brand name (in terms of contrast on the pale background) drew the highest % of initial fixations in this case. The detailed and attractive pictorial area on the Comfort envelope has attracted the highest amount of overall attention, with the central slogan also drawing a relatively high proportion of fixations. As with the top ranked adverts, the persuader area achieved high average fixation durations (Sure advert).

TABLE 36: Fixation Data for Bottom 3 ranked DM Adverts *(First Page of Advert)*

		Area of Interest (AOI)												
	Ad	Brand Name	Brand Info.	Product Name	Brand/ Product Name	Slogan	Head-line	Body Text	Picture	Address	Sender	Instruction	Contact Info.	Other
% Fixations	**Pure Sure**	n/a	n/a	n/a	15%	24%	n/a	**52%**	n/a	n/a	n/a	n/a	1%	8%
	PG Tips	3%	5%	n/a	n/a	n/a	n/a	**61%**	n/a	4%	5%	2%	n/a	7%
	Comfort	2%	n/a	2%	n/a	n/a	16%	**43%**	24%	3%	n/a	0%	n/a	10%
% First Fixations	**Pure Sure**	n/a	n/a	n/a	19%	**63%**	n/a	19%	n/a	n/a	n/a	n/a	0%	n/a
	PG Tips	5%	0%	n/a	n/a	n/a	n/a	**52%**	n/a	7%	5%	3%	n/a	n/a
	Comfort	11%	n/a	9%	n/a	n/a	**46%**	20%	7%	7%	n/a	0%	n/a	n/a
% Time Spent	**Pure Sure**	n/a	n/a	n/a	11%	22%	n/a	**56%**	n/a	n/a	n/a	n/a	0%	11%
	PG Tips	2%	4%	n/a	n/a	n/a	n/a	**68%**	n/a	5%	4%	2%	n/a	6%
	Comfort	2%	n/a	2%	n/a	n/a	18%	**47%**	21%	3%	n/a	0%	n/a	7%
Average Fixation Duration (msec)	**Pure Sure**	n/a	n/a	n/a	473	590	n/a	**720**	n/a	n/a	n/a	n/a	167	n/a
	PG Tips	329	448	n/a	n/a	n/a	n/a	615	n/a	761	431	**763**	n/a	n/a
	Comfort	623	n/a	479	n/a	n/a	**652**	647	528	642	n/a	200	n/a	n/a
	Pure													

% Fixations = % of the total fixations made
% First Fixations = % of the fixations made on AOIs within the first 1000msec
% Time Spent = % of the total fixation time
Average Fixation Duration (msec) = average duration of fixations

NOTE: (Grey text indicates an area within another AOI)

NOTE: Table continued below...

TABLE 36: Fixation Data for Bottom 3 ranked DM Adverts *(First Page of Advert)* **(Continued)**

	Ad	Coupon	Pack Shot	Offer	Text Detail
% Fixations	**Sure**	**n/a**	**n/a**	**n/a**	**n/a**
	PG Tips	**13%**	**4%**	**4%**	**3%**
	Comfort	**n/a**	**n/a**	**n/a**	**n/a**
	Pure				
% First Fixations	**Sure**	**n/a**	**n/a**	**n/a**	**n/a**
	PG Tips	**14%**	**3%**	**8%**	**3%**
	Comfort	**n/a**	**n/a**	**n/a**	**n/a**
	Pure				
% Time Spent	**Sure**	**n/a**	**n/a**	**n/a**	**n/a**
	PG Tips	**9%**	**3%**	**3%**	**2%**
	Comfort	**n/a**	**n/a**	**n/a**	**n/a**
	Pure				
Average Fixation Duration (msec)	**Sure**	**n/a**	**n/a**	**n/a**	**n/a**
	PG Tips	**408**	**370**	**400**	**448**
	Comfort	**n/a**	**n/a**	**n/a**	**n/a**
	Pure				

% Fixations = % of the total fixations made
% First Fixations = % of the fixations made on AOIs within the first 1000msec
% Time Spent = % of the total fixation time
Average Fixation Duration (msec) = average duration of fixations

NOTE: (Grey text indicates an area within another AOI)

FIG. 45-47: Colour Plots for Bottom 3 ranked DM Adverts - *First Page of Advert* (Sure, PG Tips and Comfort Pure)

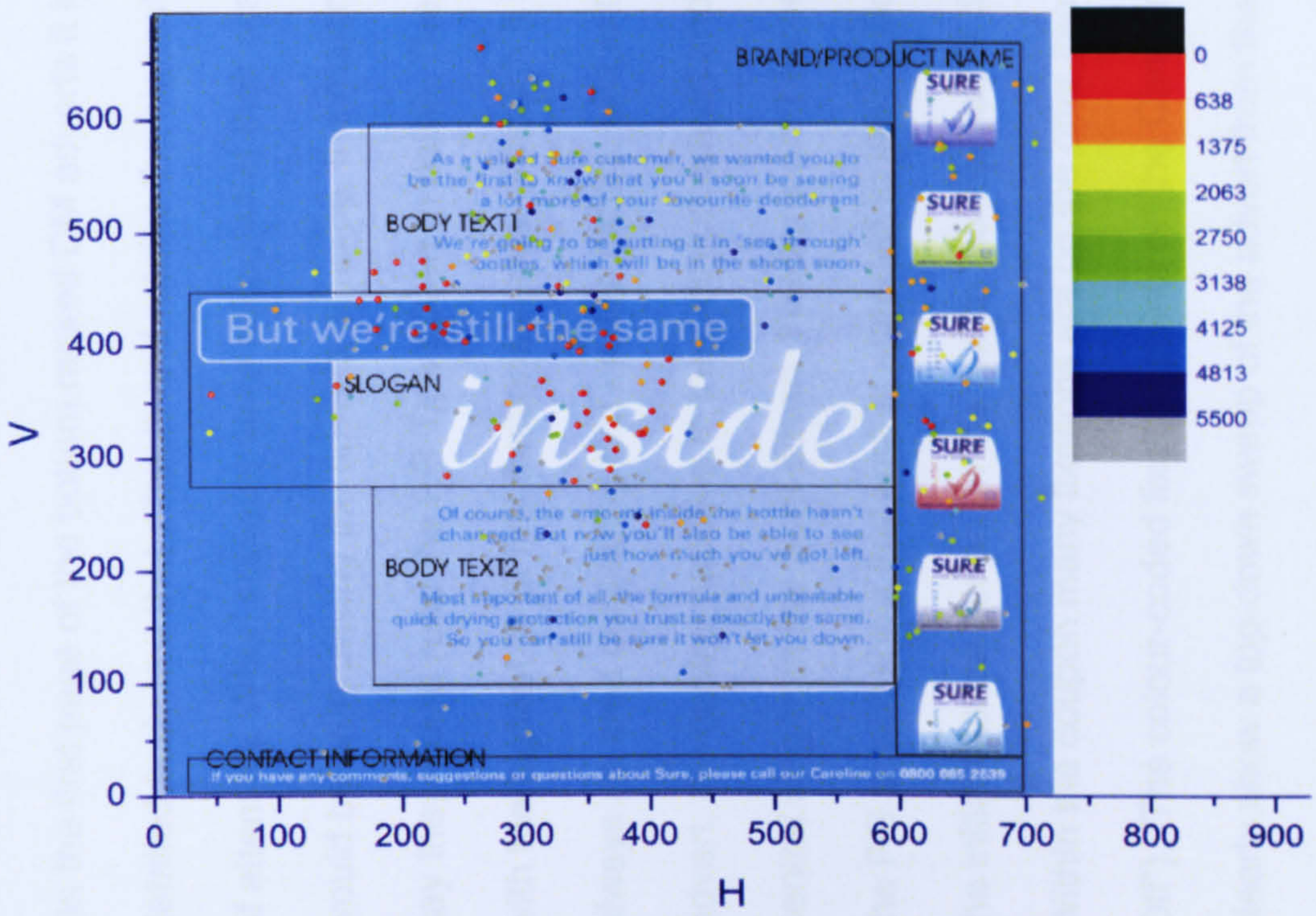

FIG. 45: Sure (First Page of Advert)

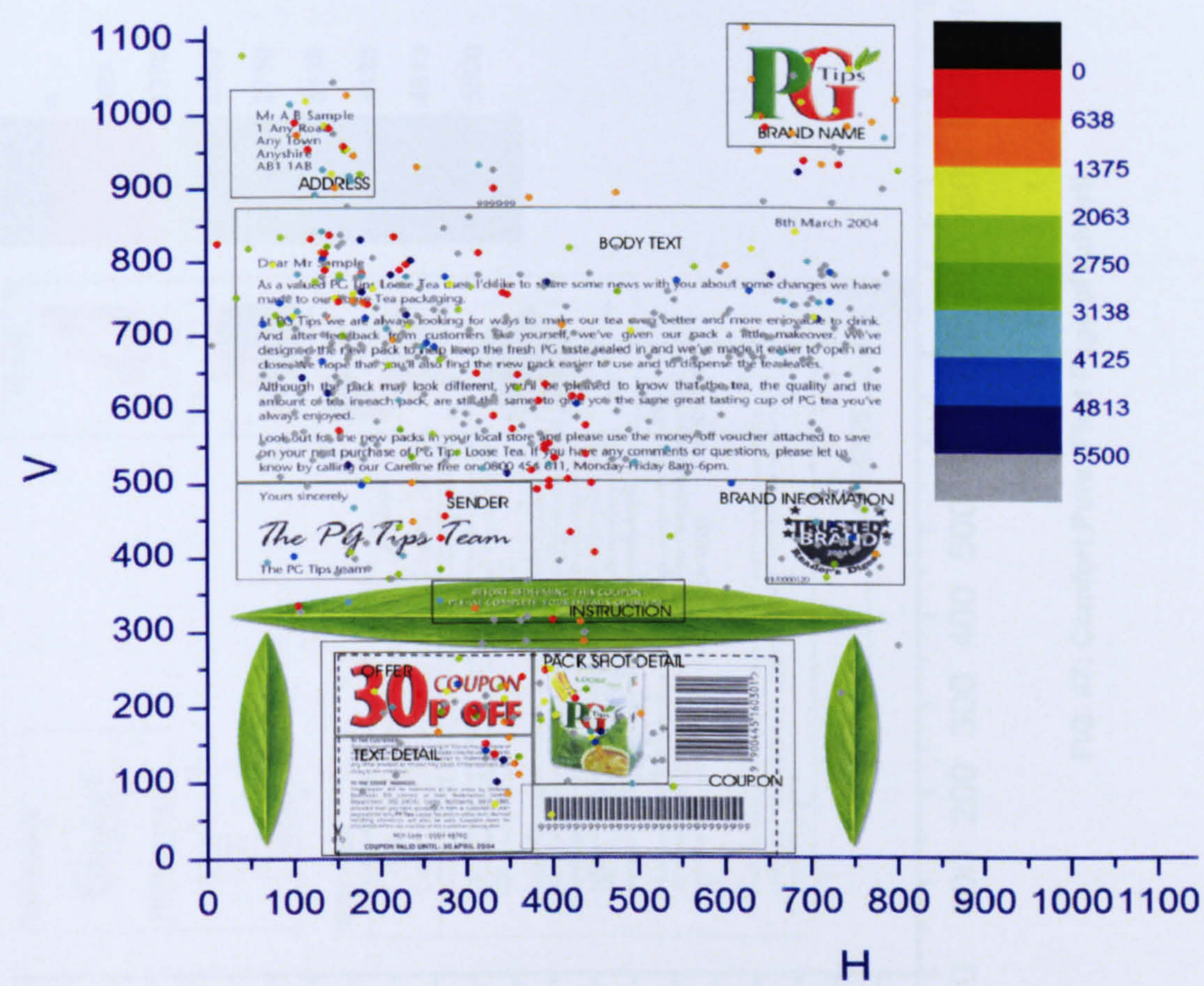

FIG. 46: PG Tips (First Page of Advert)

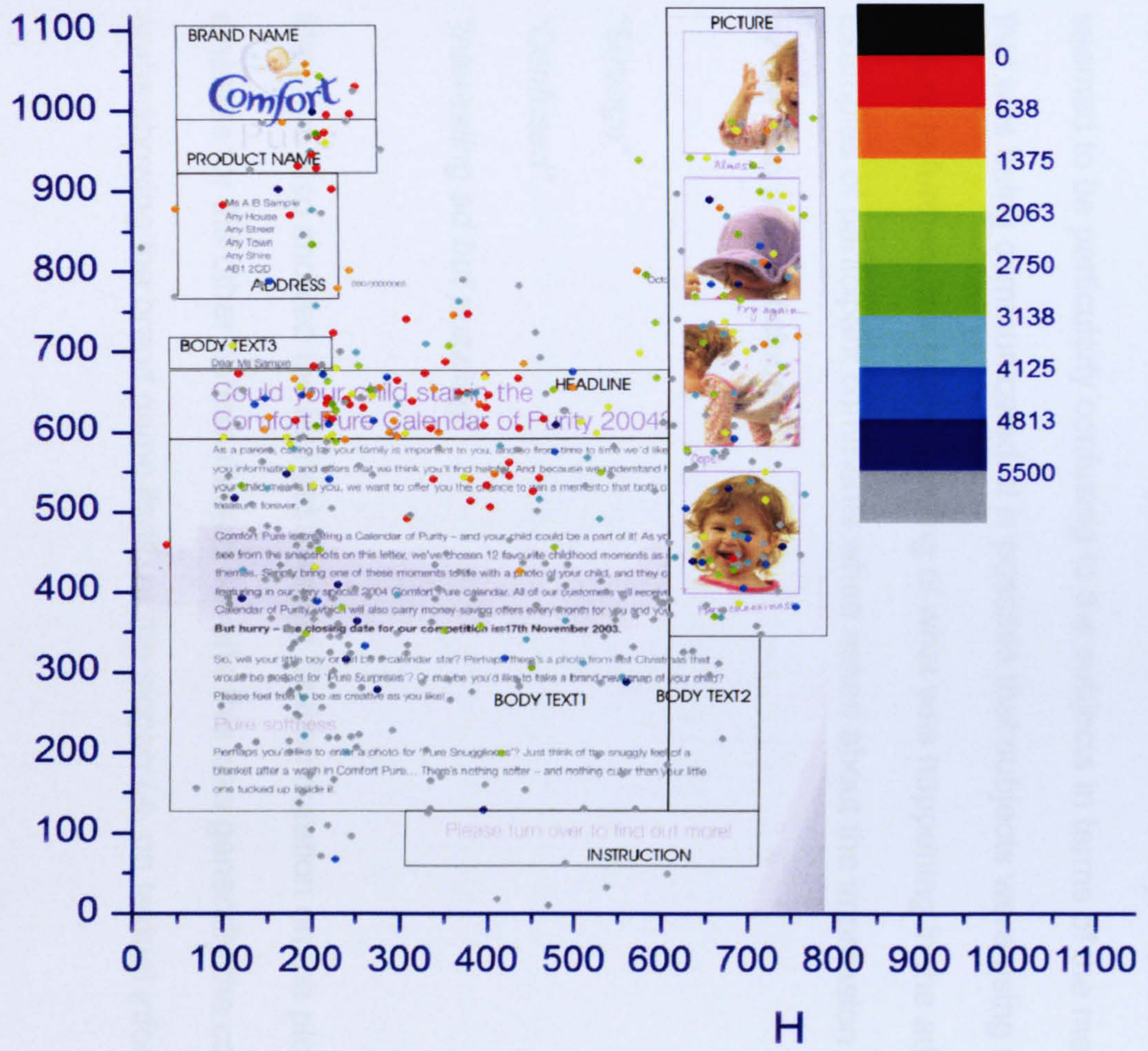

FIG. 47: Comfort Pure (First Page of Advert)

On the first page of the bottom ranked DM adverts it is the detailed body text that attracts and retains the highest levels of attention. When subjects were asked what their reaction would be on receiving the adverts at home, the majority did say they would read the PG Tips advert in detail. The AOI with the highest % of first fixations varies, although it is always an area containing text *i.e.* the central text in the PG advert, the central headline in the Comfort advert and the central slogan in the Sure advert. Fixations on the coupon in the PG advert show this area is attended to later, following the initial fixation period on the text in the top half of the ad. Within the coupon many fixations are on the offer itself ("30p Off"). The colour-coded fixation points on the Comfort advert clearly show a top-down sweep of the advert from the red fixations in the top half to the blue fixations in the bottom half.

5.4.2 Summary of Eye-Movements across Experiments

The distribution of attention tables for each experiment showed the eye-movement data in more detail. In the case of all of the top ranked poster adverts, % of fixations, % first fixations, % time spent and average fixation duration were highest for the prominent pictorial elements (picture and pack shot). Textual elements in these adverts tended to be smaller than the pictorial areas, and also positioned at the bottom of the layout. Although most of the bottom ranked adverts also had prominent pictorial elements, the % of first fixations was generally higher for the slogan, even though this was not always the top area in the advertisement layout *e.g.* Herbal Essences. Overall though, the picture and pack shot *did* achieve a high % of fixations and a high % of time spent in particular cases *i.e.* Magnum and Lion. Incidentally, these two adverts seemed to be particularly confusing to the subjects in terms of the message that was being communicated. It is possible that subjects were using the picture to further their understanding of what was happening in the advert. Examples of participant comments when asked about the impression created by the Lion advert include:

"Strange"

"Confused"

"Interesting ad but puzzling"

Magnum also showed the highest average fixation duration on the picture, whereas for the other bottom ranked adverts this was generally the case for the areas showing the brand name itself, or the slogan *i.e.* on textual information.

Where a product was shown as part of the main picture, a relatively small % of fixations were focusing on this area *e.g.* for the Magnum advert, 76% of overall fixations were on the picture and only 19% of these were concentrated on the image of the product. Smaller AOIs and AOIs at the very bottom of the adverts tended to receive a low amount of overall attention: the secondary brand name in the bottom ranked adverts achieved a maximum of 5% of the fixations in all four cases where this area of interest was included.

In the case of magazine adverts, which generally consist of a greater number of overall ad elements (consumers can control the viewing time therefore there is a potential to include more information in the adverts) attention was initially drawn to the text in many cases. As with the poster adverts, a prominent slogan (in terms of size, format and positioning) can be the central pull. The main text areas and picture or pack shot seem to be the areas subjects look to find out what is being advertised, and interestingly fixations on the brand name itself tend to come later on in the viewing time. Some pictorial elements may simply be visually stimulating and others such as pack shots are actually a quick, effective way of communicating to the consumer what is on offer.

The eye-movement fixation percentages for magazine adverts can provide further information to support these observations. For 3 out of 5 of the top ranked adverts, the slogan area attracted the largest proportion of first fixations (the Kenco and PG adverts were the exceptions). In all of these cases, the slogan was at the top or in the top half of the advert. The highest percentage of overall fixations varied across the 5 top adverts, although in terms of time spent

and average fixation durations, the pack shot achieved the highest values (up to 680 msec average fixation duration and the highest % of time spent for 3 of the 4 adverts containing this area of interest). The eye-movement values for the bottom ranked magazine adverts also show a particular draw of slogans in the top half of the advert layout. 2 of the bottom ranked adverts (Birdseye Peas and Golden Lights) had the highest % of first fixations here, and were designed with the slogan close to the top of the ad. The Ariel advert also included a main slogan area at the top of the layout, but the highest % of first fixations was on the dominant, central picture, which incidentally also incorporated bold text.

For the adverts with slogans at the bottom of the layout (PG Pyramid and Magnum), the % of first fixations on this AOI was lower, as the pattern of gaze seemed to begin in the top part of the advert. In the Magnum advert in particular, the face in the pictorial attracted a lot of initial attention. Adverts such as PG Pyramid and Magnum, with a dominant pictorial area, showed the highest % of overall fixations here. For the Birdseye Peas and Ariel adverts, in which the slogan is in the top half of the advert but also has to be interpreted (the slogan is not direct but requires the consumer to relate the words to the overall advert and the product), the highest % of overall fixations are here. In the Magnum advert, it is the pictorial area which requires decoding.

Direct marketing eye-movement patterns are especially intriguing as usually with this type of advertising, the consumer has the option to throw it away immediately rather than reading on (the advertising is taken completely out of the consumer's environment). As might be expected, the eye-movement plots

indicate that a consumer's first instinct is to look at the address (where there is one) and see if the mail is for their attention. Secondary to this, they are looking for an indication of what's inside. This involves searching for the brand name but also for any further information about special offers or samples. This is mirrored by fixations on the brand name and coupons on the inside pages of the adverts. Even though some of the participants may not have gone on the open the DM they were presented with during the experiment had they been at home, here we are able to see what their behaviour would be if they had.

The common areas of interest on the front page of the advertising among the top ranked DM adverts are the slogan, picture and persuader (a persuasive message is shown *e.g.* 'money-off coupon inside'). None of these adverts feature an envelope and are not addressed specifically to the consumer. Of the main elements, the slogan attracted a high % of the first fixations for the Surf and Imperial Leather adverts, both which had a central and bold slogan with contrasting colours (the highest % of time spent was also on this area for these 2 ads). The Dove advertisement achieved 31% of first fixations in this area, but slightly more (39%) fell on the main, eye-catching picture. Overall, it was the picture that achieved the highest amount of fixations (44%) and the highest % of time spent (40%), with the pack shot, slogan and persuader showing an even distribution of the remaining % of fixations. The Surf advert also showed the highest % of overall fixations on the pictorial areas of interest, which were bold, brightly coloured and prominent in the design. The persuader achieved high average fixation durations in all 3 top ranked adverts (626, 638 and 661

msec). In all of the advertisements this area provided information about money off or monetary prizes inside.

As the number of AOIs increases on the first page of the adverts, the eye-movement patterns become more varied. Most of the attention on the first page of the Imperial Leather advert is concentrated on the slogan as this is a dominant area and also completes the phrase that was featured on the front page of the ad. The brand name is attended to but not as much, and also later on during exposure. The highest average fixation duration is for the contact information AOI (509 msec). This area features a website address in relatively small text and subsequently requires a certain amount of concentration to read. In the Dove advertisement (which has a format and content the same as the front page), the picture remains the area which attracts retains the most attention in terms of the % of fixations and amount of time spent overall (41%, compared to 17% for the pack shot and 15% for the slogan). Apart from the average fixation durations which varied slightly (these were generally higher for the first page, the first time the subjects saw this advert design), the pattern of attention is almost identical for the first page as it was for the front page of this advertisement. On the first page of the Surf advert, the pack shot areas gained the most fixations overall (and the highest % time spent), with the remaining % being distributed among the various other areas, including 28% on the instruction and 14% on the headline (the main textual areas). It was the headline, in the centre of the advert, which attracted the highest % of first fixations from the subjects (50%).

As with the top ranked adverts, the persuader area on the front page of the bottom ranked adverts achieved high average fixation durations, up to 1003 msec (Sure ad). In terms of first fixations, the address seemed to attract initial attention for the Sure and PG Tips adverts. The front envelope of the Comfort Pure advert shows the brand name in the top left corner directly above the address, and this has attracted 31% of initial fixations. The other textual areas on the front of the advert (including the address) are more subtle and less colourful than the brand name. The detailed pictorial area on the Comfort Pure envelope has achieved the highest % of total time spent (33%). Inside the adverts, on the first page, it is the detailed body text that attracts and retains the highest levels of attention overall. The highest % of first fixations varies in area across the 3 bottom ranked adverts. For PG Tips it is the central text, for Comfort Pure it is the central headline above the main area of text, and for Sure it is the central and dominant slogan. The first page of DM often seems to contain detailed text telling consumers about the brand, product and offers. Specific eye-movement data across the coupon in the PG Tips advert shows this area is attended to later, after the main body text, and it is the offer itself "30p Off" (within the coupon) that attracts a higher % of the initial fixations.

5.4.3 Correlations between Fixation Data and Attitudes

5.4.3.1 Average Scores

A very small number of Pearson correlations were carried out on attitudes and fixation information for the 4 AOIs that were most frequent across the set of adverts *i.e.* most adverts contained these elements. In experiment 1 (poster adverts) these areas were the brand name, slogan, pack shot and picture. In

experiment 2 (magazine adverts) they were the brand name, slogan, pack shot, text and picture. Where values were missing in adverts that did not feature a particular area, these cases were excluded from the analysis pair wise. For experiment 3 data Pearson correlations were carried out on attitude to the ad and brand measures and fixation averages calculated across the subject group, for the areas of interest most common on the first page across the set of adverts *i.e.* brand name, pack shot, headline, body text and picture. However, the number and type of AOIs varied greatly within the advertisement group, and therefore excluding missing values pair wise meant that in many cases, correlation coefficients were produced across only 2 or 3 averages. Consequently, any correlations highlighted in the following results show correlations found where N = 7 or above unless otherwise stated (where at least half of the data set has been included in the calculations).

Predictably, the % of overall fixation time spent in an area of interest is directly related to the % of total fixations made in that area (see Appendix 1) *i.e.* more time spent = more fixations made.

When fixation data based on averages was explored further, experiment 1 results showed that although the amount of attention focused on the advertisement pictorial was noticeably linked to several other fixation variables, these relationships were no longer significant once a correction method was applied. One observation was a negative correlation indicating that as more attention is focused on the picture, less is given to the pack shot, and *vice versa*. Often, especially in the case of poster advertisements, the picture is one

of the largest ad elements, designed to capture attention, enhance likeability or help communicate the advertisement message. The pack shot, on the other hand, is often contained in a smaller area. Experiment 2 results also showed the amount of attention *i.e.* the % of overall fixations made and % of overall fixation time spent in the pictorial area was linked to the % of fixations made on the pack shot, although these correlations did not remain significant following the application of the Bonferroni correction. The pattern indicates that if more attention is given to one of these areas, less is given to the other. A similar, negative relationship was shown in experiment 1 between the % of the fixations made on the picture, and % of time spent there, and the % of the fixations made on the advertising slogan. In experiment 2 there were significant, negative correlations between the % of fixations on the slogan and the % of fixations and % of fixation time on the picture (slogan % of total fixations and picture % of total fixations correlate -.636 and slogan % of total fixations and picture % of total fixation time correlate -.640, both significant at the .000 level).This again indicates a 'trade-off' between 2 areas of the ad, where attention paid to one lessens the need to pay attention to the other. As the slogan and pictorial areas are generally both large and prominent, this correlation suggests that information may be picked up from one or the other area. The area where more attention is focused may depend on, for example, the type of information provided by that area, or how attractive that area is.

There is also a possibility that the positioning of the AOIs could have some effect, as eye-movement plots have previously indicated that slogans placed at the top of the advert appear to gain a large share of initial fixations. Although some of these correlations did not remain significant following correction (and

correlations based on averages should be treated with caution), they trigger interesting ideas about how the distribution of attention might be balanced across areas of interest within an advert.

In experiment 1, one strong and positive correlation (.874 with a significance of .000) was found between the average duration of fixations on the brand name and the average duration of fixations made on the advertising slogan. One possible explanation for this is that the slogan creates an interest in the brand and attention is therefore highly concentrated on the brand name when fixations are made there. Eye-movement plots included earlier in this chapter demonstrate that the slogan is often the first area attention is directed towards, with fixations on the brand name coming later on during exposure. In experiment 2 when the fixation variables for the other AOIs were correlated the average duration of fixations on the slogan increased along with an increase in the average duration of fixations on the brand name (.762, significant at the 0.01 level) as seen in the previous set of results. There may be a shared manifestation of interest in the time allocated to concentrating on what the advertised brand is and what the slogan is saying about it.

The other relationship of interest within the experiment 2 data set is between the amount of attention focused on the text (both in terms of % of fixations and % of fixation time) and the average duration of fixations here. As the % of fixations increases, so does the length of fixations (.690, significance .001). In accordance with this, as the % of fixation time increases, so does the length of fixations (.824, significance level .000). This indicates that interest in a textual

area can be discernible from the amount of attention focused there, but also from the concentration of the fixations themselves. It is possible that this pattern is evident in this particular AOI because textual areas require more intense reading activity, more than a short, punchy slogan or pictorial area, for example.

Experiment 3 results showed that as the % of overall fixations on the body text increases, the average fixation duration decreases and *vice versa* (-.800, significance level .010, N= 9). It could be that a greater proportion of attention on this area signifies that subjects are reading the information, and their fixations are shorter as they are scanning across the words rather than concentrating their focus in one area of this AOI. Again, correlations based on averages should be regarded with caution. Correlation tables have not been included here as the majority of values were not significant to acceptable levels.

Although the experiments in this thesis have been designed to be 'target-based' *i.e.* attention has been assessed in terms of the proportions in defined areas of interest, there may be some effect of the size and positioning of the key elements, that would, for example, increase the amount of focus on the pictorial and reduce the attention on the pack shot and other smaller areas. However, the pictorial could also be the biggest source of information or have the most complicated content, which would also increase the amount of attention consumers dedicate to that area. As all of these things vary across each individual advert, and as some of them would not be easily quantifiable, it

is almost impossible to say which factor is at work. These possible effects would need to be investigated in their own right, with a smaller set of adverts, or on adverts designed by the experimenter specifically for the purpose of assessing the influence on attention patterns. Based on this reasoning, further correlations using attitude factors, attitude and brand variables and fixation data were not conducted. Quantified eye-movement behaviour may not be directly associated to attitude measurements in statistical testing. However, fixation data alone is able to accurately represent the concentration of attention in pre-defined areas of an advert and attention patterns across time, and colour plots based on these fixation measurements manifest this behaviour and allow an accurate observation of it. Combined with advert ratings on various scales we can begin to build up a picture of a theoretical relationship model.

Chapter 6

Summary of Results and Findings

6.1 Shopping Habits, Brand Preferences and Perceptions of Advertising

6.1.1 Purchase Behaviour and Attitudes towards Advertising

Subjects' perceptions of their shopping habits and attitudes to advertising[41] were collected in order to define the type of consumer recruited for this study further. Averages on these measures for each of the 3 conditions tended to fall around the midpoint of the scale, indicating that there were not many extreme responses (the majority of average scores falling at around 5 or 6 out of 10 and standard deviations generally showing around a 2 point variance). However, one particular pattern was evident in all 3 subject sets: loyalty scores were higher than perceived spontaneity scores, thus indicating that the consumers recruited based on the criteria for the 'housewife' target audience were generally speaking more constant than impulsive in their purchase behaviour.

The subjects were asked about their general positivity towards advertising, but there was little variance in the scores. Previous findings have suggested that attitude towards advertising in general can affect how much attention is paid to an ad, and that consumers who claim they like to look at advertising are more persuaded by it [Metha & Purvis (1995)].

Each group was also asked about how positively they felt about the particular type of advert they were to view during the experimental sessions *i.e.* poster averts, magazine adverts or direct marketing. Positivity towards DM adverts scored lowest (average 3.04, standard deviation 2.30) while magazine adverts

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[41] Spontaneity, loyalty, perceived influence of promotions on purchases, influence of children on purchases, notice of advertising in general, general liking of adverts, general perceived influence of adverts on purchases, positivity towards poster/ or magazine/ or DM adverts.

scored 5.10 (standard deviation 1.72) and poster adverts 5.70 (standard deviation 2.12) with the respective subject sets. This implied that responses to the attitude variables in the DM condition may well be different to the type of relationships found in the poster and magazine sets, as subjects appeared to have pre-disposed negative views on DM, while the poster and magazine scores were fairly neutral.

Brand preferences were assessed in the initial questionnaire and eye-tracking session and again 2 weeks later, to establish how stable these choices may be from one shopping trip to the next. Consistency scores were relatively high in all cases. With a maximum possible score of 2, all product groups scored 1 or above, with tea, deodorant and fabric conditioner scoring particularly well across the 3 subject groups. The exception to these high scores was the product category of sweets, which scored an average consistency of 0.89, indicating more varied choices across purchase decisions. This brings to light that within the FMCG group, there will be slight differences between products in terms of how constant brand choices are, probably based on their fundamental characteristics. Reason for purchase helps to explain this further. Results across the 3 subject groups showed, for example, that the majority reason given for the choice of a preferred brand in the toiletries category was quality, whereas impulse snacks were chosen based on personal taste (these results were not based on unanimous responses but on the most frequently occurring answers, and therefore did not form a basis for any statistical analysis).

Purchase decision involvement was also assessed by means of a published scale [Mittal (1989)]. The results across each experimental group are shown in the table below (scores were taken for the product types to be included in the advert set for each condition, see Appendix 1 for a full copy of the scale).

TABLE 37: PDI Scores and Overall Averages across Experiments 1, 2 & 3

	PDI Score			
PRODUCT GROUP	**Toiletries**	**Laundry**	**Groceries**	**Impulse Snacks**
EXPERIMENT GROUP				
1	7.04	6.56	7.23	5.94
2	7.29	6.77	6.83	6.21
3	7.39	6.11	7.11	-
Average	**7.24**	**6.48**	**7.06**	**6.08**

There are some subtle differences in the scores. Toiletries tend to score slightly higher than the other product categories, and impulse snacks lower *i.e.* decisions to buy a toiletries brand (choosing between brands in this category) would be a more considered one. These results reflect the reason for purchase findings discussed above. Overall the PDI scores did not vary extensively between the product groups and therefore the results were not broken down and analysed by product category.

6.1.2 Interaction with Magazines and DM

Concerning magazine readership, results showed that the majority of subjects read magazine publications from the front cover to the back page, therefore advertisements on the first pages would potentially have more impact (*i.e.* be more attention-grabbing as they are the first adverts the reader sees). In experiment 2, subjects were exposed to the adverts in a different, random order

in between magazine pages to avoid such effects. Only 26% of the subject group said they do not notice advertising in magazines.

Extra questions assessing consumer reactions to direct marketing material showed that subjects were most interested in free samples or coupons, and it was important these offers be shown on the outer design of the advert. This is reflected in the eye-movement patterns for the DM adverts (discussed below). Early research by Pressley & Tullar (1977) found that a 10¢ incentive was able to significantly increase the response rate from a commercial population surveyed by mail. They proposed that evidence suggested the importance of this kind of inducement was to do with the psychological impact of receiving money rather than the actual monetary value.

Interest was highest in toiletries and laundry/household items, echoing the PDI results discussed above. Along with toiletries, clothing was another popular category the subjects agreed they would be more likely to open to read about. The most unpopular category was financial advertising. In general the subjects would be likely to open DM at home, with only 2% saying they never open this type of advertising, regardless of the low positivity score for this advertising format compared to poster and magazine results. Overall the subjects appeared to be open to advertising.

6.1.3 Informational/Transformational Scores

In all 3 data sets, informational and transformational scores failed to identify 2 distinguishable groups of adverts within each sample. The majority of the

adverts used during this research scored between 2 and 3 on both the informational and transformational measures. No scores were particularly high *i.e.* above the 3.5 mid-point on either construct (see Appendix 1 for average informational and transformational scores across the 3 advertisement samples). In the case of the sets of poster and DM adverts, the informational and transformational scores were actually positively and significantly correlated with each other (.747 and .838 respectively, significant at the 0.01 level). These results indicate an overlap between the 2 measures and therefore results were not analysed based on their informational and transformational averages. This lack of distinction could have occurred for various reasons. It is possible that the subjects within the target groups did not use the full extent of the rating scale (see Appendix 1 for a full version of the scale). It is also likely that as the sets of adverts were all part of the FMCG category of advertising, they did not vary significantly enough (in their design, style, content or message) to illicit discrete scores on each of the 2 measures. There is also a possibility that the items contained in the scale were not appropriate for the type of advertising used in this study. Although the scale was designed to identify informational and transformational ad content and the phrasing was adapted for use in this study, the original development of the scale was based around TV commercials [Puto & Wells (1984) in Bearden & Netemeyer (1999)].

6.2 Advert Characteristics, Attitudes and Performance

6.2.1 Top and Bottom Advert Characteristics

During the experimental procedures, adverts were scored on how well they performed on the 8 advertisement measures *i.e.* is the advert relevant,

informative, eye-catching, interesting, easy to understand, believable, enjoyable and does it make the consumer more likely to try the brand? The top and bottom adverts on these measures were selected for analysis, and their performance across other variables was then compared to their overall ranking in terms of how positive or negative consumer attitudes were when responses were focused solely on the advertising stimuli.

The table below displays the top and bottom ranked adverts across all 3 experimental conditions, and their scores on brand measures, liking, recall and impact, as well as how the adverts were described and which common brand associations were recorded. The top adverts all scored the highest brand ranks as well as being rated best overall across the attitude to the ad measures. The bottom adverts also showed this pattern, each one being towards the bottom of the rank order for the overall attitude to the brand measures. For the top and bottom examples, advert performance on the attitude measures also corresponds to the recall, liking and impact scores: these are higher for the top ranked adverts across all 3 types of media. This is especially true for the magazine advertisements, where the bottom ranked adverts performed well below average on these variables, as indicated by the Index values. The greatest difference in responses between the top and bottom poster, magazine and DM adverts is for impact (differences of 107, 124 and 145 respectively). Differences in liking are large for the top and bottom ranked magazine and DM adverts (74 and 76), although this difference is smaller for the comparative poster adverts (35). Overall the differences between top and bottom adverts are smaller for recall (poster = 14, magazine = 37 and DM = 38).

High impact is an important feature for poster adverts in particular, given the often limited viewing time. Impact and liking are both concepts influenced by visual advertising characteristics, and could be affected by the same advertisement elements such as the main pictorial, although each is measuring a slightly different thing.

The top ranked adverts were all described by 'positive' words *e.g.* straightforward, clever, and clear. In direct contrast to this, the bottom ranked adverts were all described with 'negative' words *e.g.* busy, confusing, and dull. The most common brand associations showed a similar pattern, with the top adverts generally being described in positive terms *e.g.* "Healthy", "Gentle", and "Quality". The bottom ranked adverts were described in negative terms in a number of cases *e.g.* "Dull", "Boring", but the associations were generally more mixed for these lower ranked adverts. Although some of the words are not 'negative' as such, they still insinuate that the subjects may not be relating to the brands in an essentially positive way *e.g.* the Ariel advert created the association 'practical', which could be interpreted as a positive depiction, but may not create the same appeal as an advert which produces associations that relate directly to the consumer (the Dove advert made the participants feel the brand was for them, "for real women").

TABLE 38: Top and Bottom ranked Advert Characteristics and Impressions of the Brand – Experiments 1, 2 & 3

	Rank Position	Advert	Ad Rank	Brand Rank	Impact Index	Liking Index	Recall Index	Ad Descriptions	Brand Associations
POSTER ADS	TOP	**Heinz**	1	1	168	112	158	Striking Clever Simple	Healthy Warming Quality
	BOTTOM	**Magnum**	32	29	61	77	144	Busy Confusing Dull	Expensive Luxury Extravagant
MAGAZINE ADS	TOP	**Persil aloe**	1	1	171	133	111	Clear Straightforward Simple	Gentle Soft Sensitive
	BOTTOM	**Ariel**	32	25	47	59	74	Plain Confusing Dull	Boring Dull Practical
DM ADS	TOP	**Dove firming**	1	1	171	143	150	Clear Clever Intriguing	Quality Fun For real women
	BOTTOM	**Sure**	14	11	26	67	112	Plain Ordinary Dull	Luxury Boring Quality

6.2.2 Correlations with Liking, Recall and Impact

Correlations were carried out using new factor variables identified as underlying ad judgements. Data from all 3 conditions showed that liking was closely linked with the positive feelings and intentions and visual impact factors. The relationship with the communication factor *i.e.* the factor concerned with the advert content and conveyance of the advertising message was weaker but there were still a number of significant correlations for each media channel. Liking appears to have a stronger association with visual and emotional advertising effects. What is important to take forward into the advertising planning process is that positive perceptions across liking and these factors have some fundamental link.

Impact and recall were studied in terms of average scores for each advert across the relevant subject set due to the data collection methods employed. A common theme occurred in all 3 experimental conditions. Impact appeared to be intrinsically linked to how eye-catching, interesting and enjoyable an advert was rated. In a similar way to liking, this indicated that impact is judged on visual elements.

It is possible that liking and impact are being judged on very similar criteria by the subjects. Impact refers to the initial impression an advert created *i.e.* does the advert particularly stand out? It is important for adverts to have impact. For poster adverts this is the ability to stand out in the consumer's environment, for magazine adverts it is the ability to stand out against editorial and before the reader turns the page, and for direct marketing it is the ability to stand out

amongst the other mail. It is likely that in some cases an advert will have high impact as it immediately appears likeable to consumers. It is also probable, however, that in some cases impact will be high for a negative reason. The experimental results appear to associate impact with likeability on the whole, but there are one or two examples where this relationship is not apparent. One of these cases is the PG Tips pyramid bags magazine advert, below.

FIG. 48: PG Tips Magazine Ad

This advert was in the bottom 5 ranked adverts across the attitude to the ad measures and also scored a low brand rank and lower than average liking. However, in this instance, impact scored higher than average. The advert had stood out, but the subjects did not react positively to it. This suggests that

effective advertising needs to combine positive outcomes on several different levels. The advert does need to capture attention but it also needs to appeal to the consumer, otherwise it is unlikely to positively influence their brand perception, even if it is a well known brand such as PG. In fact, the advert could potentially have the opposite effect and create negative brand associations.

The analysis on recall scores (correlation with advert and brand attitudes) did not produce many clear-cut insights. The only strongly significant correlation occurred within the poster advert data set between recall and brand appeal and recall and value for money. However, further investigation via partial correlations showed that this link could have been affected by previous experience or knowledge of the brand.

Although subjects had been asked to rate the adverts and give their impressions of the brands *only* based on their exposure to the advertising within the eye-tracking and questionnaire sessions, there was inevitably a potential for brand usage or brand familiarity to have an effect. Brand usage and brand familiarity scores were actually shown to correlate with one another, which brings another element into the interpretation of these results. It is possible that subjects had difficulty in separating these concepts from one another.

The adverts for this project were not current as far as it was possible to control, but the adverts were real examples run in campaigns across recent years and therefore the subjects could have viewed them prior to participation in this

study. It is not known how pre-exposure to an advert may have affected eye-movements during the eye-tracking sessions, but the subjects would not have been exposed to the adverts in this kind of controlled context before. There was no strong evidence to suggest that pre-exposure affected the relationship found between recall and brand attitudes.

The recall measure was included in this study to look for relationships between this and attitude and behavioural variables. Results from the top and bottom adverts ranked by attitudes to the ad showed marked differences in scores on most measures *e.g.* liking and impact, but they could not always be defined by their scores on the recall variable. All top adverts did not necessarily score well and all bottom adverts did not always score badly. This indicated that memory (tested by recall of the brand name when prompted by the ad) did not always directly relate to how consumers perceived the advert or the brand. An example of this is the Magnum advertisement (poster and magazine versions). The advert produced low scores on attitude to the ad variables, attitude to the brand variables, liking and impact, but scored very high averages for brand recall. The subjects did not like the advert or relate well to it, nor did they take away positive impressions of the brand, although they could identify the brand when prompted by the advert. On making a brand decision, this advert would not have created ideas about the brand that would increase the likelihood of a consumer purchase. Recall scores do appear to be misleading. They may be able to suggest how well-branded and advert is, but do not automatically indicate 'effectiveness'.

Where recall and brand involvement are shown to be closely linked, this could be to do with the effects of well-branded advertising *i.e.* the advert ties in the brand's signature design elements, such as its associated colour or theme. Examples of this are adverts for Nescafé which incorporate the instantly recognisable red Nescafé mug, and adverts for Andrex which feature the well-known Labrador puppy.

6.2.3 Correlations between Attitude to the Ad and Brand Variables

One of the questions being addressed in this research is whether attitudes to an advert can predict how the featured brand will be judged. Analysis involving the 3 factors underlying ad judgements and the one factor representing a complete brand judgement showed that in poster adverts, the relationship appeared to be stronger between the positive feelings and intentions and brand judgement factors. For magazine adverts, links between the brand factor and communication factor were weaker as in experiment 1, and the strongest relationships were with positive feelings and visual impact. Although experiment 3 data showed significant correlations with the brand judgements across all 3 advert judgements, it appeared the relationship between the positive feelings and intentions created by an advert and the perception of the brand was most noteworthy. Altogether, there was an evident trend representing a close link between ad and brand attitudes. This was not considerably affected by brand involvement.

However, when average scores were used, brand usage and brand familiarity did show significant links to attitude to the brand measures. This result,

although based on average data, suggests that there is a question about the extent to which forms of brand involvement can affect brand attitudes in this kind of advertising research.

6.3 Distribution of Attention

6.3.1 Eye-Movement Behaviour

For poster adverts fixation clusters showed that subjects displayed similar scan paths, starting towards the top of the advert and working down, as they would if they were reading a document. Pictorial elements captured a large amount of overall attention: these were often the most attractive areas of the advert. The picture and pack shot also attracted a large % of first fixations, apart from instances where the slogan was the boldest area in the top half of the advertisement *i.e.* Persil, Lion, Aero. There does seem to be a potential influence from the size of the AOI on the % of first fixations and the overall % of fixations made.

With magazine adverts gaze seems to be initially drawn to the text, especially if the slogan is large, bold, or positioned at the top/centre of the ad. Subjects seem to be searching for information about what is being advertised, and the text provides this directly. In conditions where subjects are exposed to multiple adverts in sequence, as in these experiments, it is possible that there may be a 'boredom factor' *i.e.* the subjects are looking for something in the advert to occupy or entertain them. However, in this data set the early concentration of attention on the slogan appears to be a consistent pattern across the subject group. Time is also spent exploring the pictorial elements of the adverts, and

subjects seem to be drawn to the pack shot or picture of the product in particular. The order in which the slogan and pictorial elements are attended to could potentially be affected by customer preferences if the two areas are equally prominent in the advert design. The brand name is attended to at a later stage during exposure. Perhaps this is influenced by the smaller size of this AOI in many FMCG advertisements, or the corner-positioning of the brand name often seen in the magazine advert set (see Appendix 3). The brand can often be implied from other elements of the advert such as the slogan and picture and sometimes via the integration of brand characteristics into the overall design. For magazine adverts in general, elements that seem to catch attention in particular include faces, large/bold lettering and attractive pictures.

On the front of the envelope of DM advertising, subjects are initially dawn to the address and postmark. If the brand name is shown on the front, this is also fixated on. In relation to their own scan paths, subjects were asked to identify any particular patterns of gaze related to the areas they looked at and the order they looked at them, and if there were any particular reasons for their eye-movement behaviour. The following are example comments collected during the experiment:

"Postmark, brand name and look for mention of sample inside"

"Look for information regarding what product is/what inside"

"Drawn to address, also look for brand name"

The qualitative information indicates that consumers want to find out what the advert is for, but also whether there will be an offer, coupon or sample inside. This is illustrated by fixations on the coupon if included on the advertisement page inside. Further to this, the fixations are often on the actual monetary amount on the voucher/coupon *i.e.* the amount the consumer will be saving. Differences between the top and bottom DM adverts tended to be shown on the liking and impact measures, but brand ranks did not always relate to how the adverts were judged.

6.3.2 Attention Patterns across Top and Bottom Ads

Attention patterns on top ranked poster adverts indicated a 'logical' scanning technique starting with the most prominent areas and working down the ad, returning to areas of particular interest. This can also be seen to some extent for the top ranked magazine advertisements (especially the Persil and Bertolli adverts), but as the adverts in this media format contain a slightly greater number of elements, the patterns of gaze between subjects are more likely to vary, and it is more difficult to identify a predictable viewing formation.

For bottom ranked poster adverts, attention was shared between areas of the advert that would help to communicate the ad message. In the selection of bottom ranked magazine adverts, fixations were distributed across all of the areas of interest over the exposure time, with slogans at the top of the layout or central, distinctive pictures attracting initial attention. Subjects still seem to have explored the ads that ranked lower for the attitude to the advert variables. The design of some bottom ranked magazine adverts contains very small text *e.g.*

Golden Wonder lights advert and Birdseye Peas advert. This kind of basic text at the bottom of the layout is difficult to focus on and makes the advert less attractive compared to the top ranked magazine adverts which generally contain 3 or 4 major elements which are bright, bold and more interesting. Although magazine adverts have the potential to impart more specific product information than other types of advert due to the unrestrained exposure time (assuming a consumer stops to study the advert), often the design does not incorporate this in a way that maintains the attractive visual qualities of the design.

The top and bottom DM adverts differ in their style and format and therefore the eye-movement patterns relate specifically to these variations. All DM bottom ranked adverts were addressed to the consumer and came in envelope-style formats. Two of these ads held a full-page letter inside. Based on the scatter plots we can see that the subjects spent relatively long amounts of time looking at these adverts and reading the content of the first page, even though they ranked them low on advert and brand attitude measures. The address was a particular draw on the front of the adverts, and inside the subjects spent most time reading the main body of text.

The top ranked DM adverts were all pieces of advertising that were not directly addressed to the consumer but featured bold, colourful and striking pictures on the front. Other key areas of interest here were the slogan and the persuader: each of the top adverts featured a special offer on the front of the DM and these attracted between 10% and 18% of the overall fixations, up to 23% of the

first fixations and high average fixation durations ranging from 626 to 661 msec (compared to a range of 296-478 msec for the picture AOI, for example). The first page of the top ranked adverts repeated brand information, showing the brand name and some pictorial representation of the product, either as a pack shot (Dove and Surf) or the product itself (Imperial Leather foam). First eye-movements appear to be focused around the textual information available here, such as the slogan or headline, although in the case of the Dove advert the attractive picture again retains a large proportion of attention.

6.3.3 Observations of Attention and Questionnaire Data

From the questionnaire data presented in the results chapter it was evident that brand recall was not necessarily negatively affected by negative attitudes towards the ad (recall scores were lower in many cases but there were exceptions where particularly high recall scores were achieved by low ranked adverts *e.g.* Magnum, poster and magazine versions). However, the brand associations subjects felt they were taking away with them were. The scatter plots show that in general subjects explored all of the main advertisement elements, and it is likely the positive or negative associations were triggered by the piece of advertising as a whole and not an individual area. However, the qualitative data provided by participants can provide further information in terms of what it was about the advertising theme or message that they liked or disliked, and influenced the specific feelings about the brand they were left with after exposure. For example, the Branston advert, one of the top 5 ranked poster adverts, elicited associations of "tasty" and "quality" in subjects. Looking at the advert itself it is possible to relate the association of "tasty" directly to the

clever use of descriptive text within the pictorial area (words spelled out with clothes on a washing line), which reads "crunchy, sweet, spicy, tangy". A strong pattern is shown by the concentration of red and blue fixation points on this area: subjects were drawn here first and also returned to explore this area before the end of the exposure time.

It is also evident that, as mentioned above, subjects took time to explore the detail contained in the bottom ranked DM adverts, even though their behaviour in reality as assessed by the questionnaires may be different compared to exposure during the experiment. When asked how they would act if the DM adverts had been delivered to them at home, the majority of subjects answered that they would not look at/discard the Sure and Comfort Pure adverts, yet when they were exposed to the advert in full during the eye-tracking session, they were motivated to read the textual content even thought they could have moved quickly on to the next screen. This behaviour could be due to some kind of experimenter effect: the experimenter unconsciously manipulating participants' responses because they expect a certain result. In this case subjects were given very brief and straightforward instructions prior to the eye-movement phase and the exercise was observed from the back of the room by the experimenter. However it is possible for subjects to feel under pressure in a controlled environment and they may subsequently try to display behaviour they believe the experimenter is looking for. Interestingly, the majority of subjects did actually say they would look/read in detail the PG Tips advertisement and use the coupon, which *is* represented by the fixation plots for this advert.

Top ranked adverts showed higher liking and impact scores than the bottom ranked ads in general across the experimental conditions. The high liking and impact scores for the high ranked poster adverts may be linked to the attractive images and simple layout these adverts have, compared to the bottom ranked adverts which in some cases (*e.g.* Lion and Magnum) have confusing messages and in others (*e.g.* Aero) are very plain. The same is true for the selection of magazine advertisements, with the Magnum and Ariel adverts failing to communicate a straightforward message and the Birdseye Peas advert lacking in colour or pictorial appeal[42]. In the direct marketing examples, low impact of the bottom ranked adverts might be linked to the design format (envelope style). The front pages of the top adverts were much more vibrant and colourful in design.

6.3.4 Relationships between Fixation Variables

To try to establish statistical evidence of a link between attitudes and attention patterns, a small number of Pearson correlations were carried out on fixation variables. As the study dealt with non-uniform stimuli, the most common AOIs across the advertisement sets were chosen for this analysis. In all 3 data sets it was evident that the % of fixations made and the % of total time spent in an area were in direct proportion to one another, with these variables displaying very high and significant correlations for each area of interest in each experimental condition. This indicates that both measures can represent proportions of attention across a scene.

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[42] See Appendix 3 for a full set of adverts used.

When fixation variables were correlated with one another, the poster and magazine correlation data showed the same pattern between the amount of attention on the advert picture and the slogan. This finding was included in the results merely as a point of interest and not regarded as concrete. The negative correlations (not significant at corrected levels) indicate that when a larger proportion of attention was spent on one of these areas, a smaller proportion was spent on the other. The picture and slogan are both key in communicating the advertising message, and picking up this information from one may reduce the need to look for information in the other. As they both also tend to be large areas of interest, it is probable that one or the other is the dominant feature in the ad, and less attention is spent on the less prominent area. The same pattern is shown in both sets of data between the amount of attention recorded on the picture and on the pack shot, again indicating a 'trade-off' between 2 areas which contain information about what it being advertised.

Poster advert and magazine advert results also showed the average duration of fixations on the brand name and average duration of fixations on the slogan to be positively correlated at relatively high significance levels (0.01 and above, although these results are still regarded with caution due to the use of average scores). Eye-movement plots and percentages showed that the slogan is often the first area attention is directed towards on exposure, with attention to the brand name generally occurring later during the viewing time. It is likely that increased fixation durations *i.e.* concentrated attention on the slogan represent

interest in the advertising message which is also manifested through concentrated attention on the brand name being advertised.

The DM data set showed little in the way of correlations between the fixation variables bar one noteworthy correlation significant at the 0.01 level. This high and significant negative coefficient (-.800) between the % of fixations made on the body text and the average fixation duration on this area is a sign of a particular style of attention. When a high number of fixations are made on the text, fixation durations reduce, indicating a quicker scanning technique than instances where an area requires longer fixations on a smaller amount of information *e.g.* on the pack shot. Magazine data actually showed the reverse pattern to this on the textual areas. The amount of attention focused on the text and the average duration of fixations there were positively correlated *i.e.* more overall attention to the text corresponds to a higher intensity of attention. However, textual areas in the magazine adverts are comparatively small with one or two lines of text, usually an area providing extra information secondary to the slogan. In direct marketing, the body text is a prominent area of the advertising page, with detailed text. Although this theory is relevant the data is presented tentatively as it is calculated from averages.

6.3.5 Fixation Data and Attitudes

Given the non-uniform stimuli used in the experiments, results focused on observational links between eye-movement patterns and attitude responses rather than carrying out extensive statistical analysis on fixation data and attitude data. However, one point of interest from analyses on fixation

averages was the negative correlation between attention on the picture and attention on the slogan in experiment 1 and 2 data. This conflict between textual and pictorial areas ties to the theory of cognition and affect – it is possible that the textual areas are providing the consumer with information about the product while the picture can create positive emotions regarding the brand lifestyle. Depending on consumer motivations, one or other areas may be supplying the needed input.

6.4 Comparisons across Media

Several advertisements included in the 3 experimental conditions were different versions of adverts from the same marketing campaign. This selection of stimuli was included in order to compare the relative effectiveness of adverts presented through different media channels. Persil, Sure, PG pyramid, Magnum and Herbal Essences adverts were included in Poster and Magazine formats. In some cases the adverts were of the exact same design (Magnum) and in other cases there were slight variations in the layout and/or content (see below). The Poster, Magazine and DM adverts from the Surf 99 stains campaign were all tested and the results are shown below in a separate comparison table.

One of the most marked patterns shown by the poster and magazine comparison table below is that the adverts performed at around the same level on the main measures, irrespective of the media channel. As the designs of the poster and magazine advertisement versions did not differ greatly, it seems that the subjects felt a certain way about the advert as a whole, and this came

through in both sets of results. The adverts also triggered many of the same brand associations. There are some subtle differences in the advert ratings. The Sure magazine advert was rated higher for impact than the poster advert. Interestingly the pack shot in this version was smaller and the main picture was larger (in the poster ad these elements were the other way around). The Magnum advertisements rated poorly across all attitude measures, and eye-movement plots show the same 'triangle' of attention across the picture.

The poster advert versions of campaigns did not always achieve higher impact than their magazine counterparts. The theme of much previous research into outdoor advertising has been that poster advertisements in particular catch attention and can work effectively in building brand awareness. An early eye-tracking study by Young (1984) focused on the "actual *seeing* experience...to observe the attention-getting ability of outdoor boards from the perspective of the individual in an automobile". 200 participants viewed a 27 minute drive sequence which contained a variety of outdoor advertising. Recall measures carried out after eye-tracking only accounted for a small proportion of the attention to advertising actually recorded during the test. Outdoor advertising in general was shown to be effective in drawing attention of passing consumers from all segments of the population, including 'non target' consumers. It is likely this high impact characteristic is to some extent linked to the advert design, as well as the physical impact in terms of size and positioning of outdoor ads.

TABLE 39: Cross-Media Comparison of Ad Characteristics (Poster and Magazine Ads)

Advert	Medium	Ad Rank	Brand Rank	Liking Index	Impact Index	Recall Index	Ad Descriptions	Brand Associations
Persil Aloe Vera	**POSTER AD**	3/32	5/32	123	160	106	Striking Straightforward Simple	Gentle Soft Good quality
	MAGAZINE AD	1/32	1/32	133	171	111	Clear Straightforward Simple	Gentle Soft Sensitive
Sure anti-perspirant	**POSTER AD**	10/32	10/32	101	98	103	Clear Straightforward Dull	Reliable Strong
	MAGAZINE AD	14/32	17/32	101	124	85	Striking Clever Intriguing	Effective Reliable
PG Pyramid Bags	**POSTER AD**	20/32	15/32	105	131	96	Striking Confusing Intriguing	Established Strong Flavour
	MAGAZINEAD	28/32	23/32	95	124	70	Striking Confusing Intriguing	Fun/Funny Strange Innovative Boring
Magnum	**POSTER AD**	32/32	29/32	77	61	144	Busy Confusing Dull	Funny/Silly Indulgence Expensive Luxury
	MAGAZINE AD	31/32	27/32	93	74	152	Plain Ordinary Dull	Extravagant Indulgent Sexy Luxurious
Herbal Essences colour	**POSTER AD**	29/32	32/32	96	78	34	Plain Ordinary Dull	Plain Ordinary Dull
	MAGAZINE AD	27/32	32/32	79	58	44	Busy Ordinary Dull	Boring Artificial

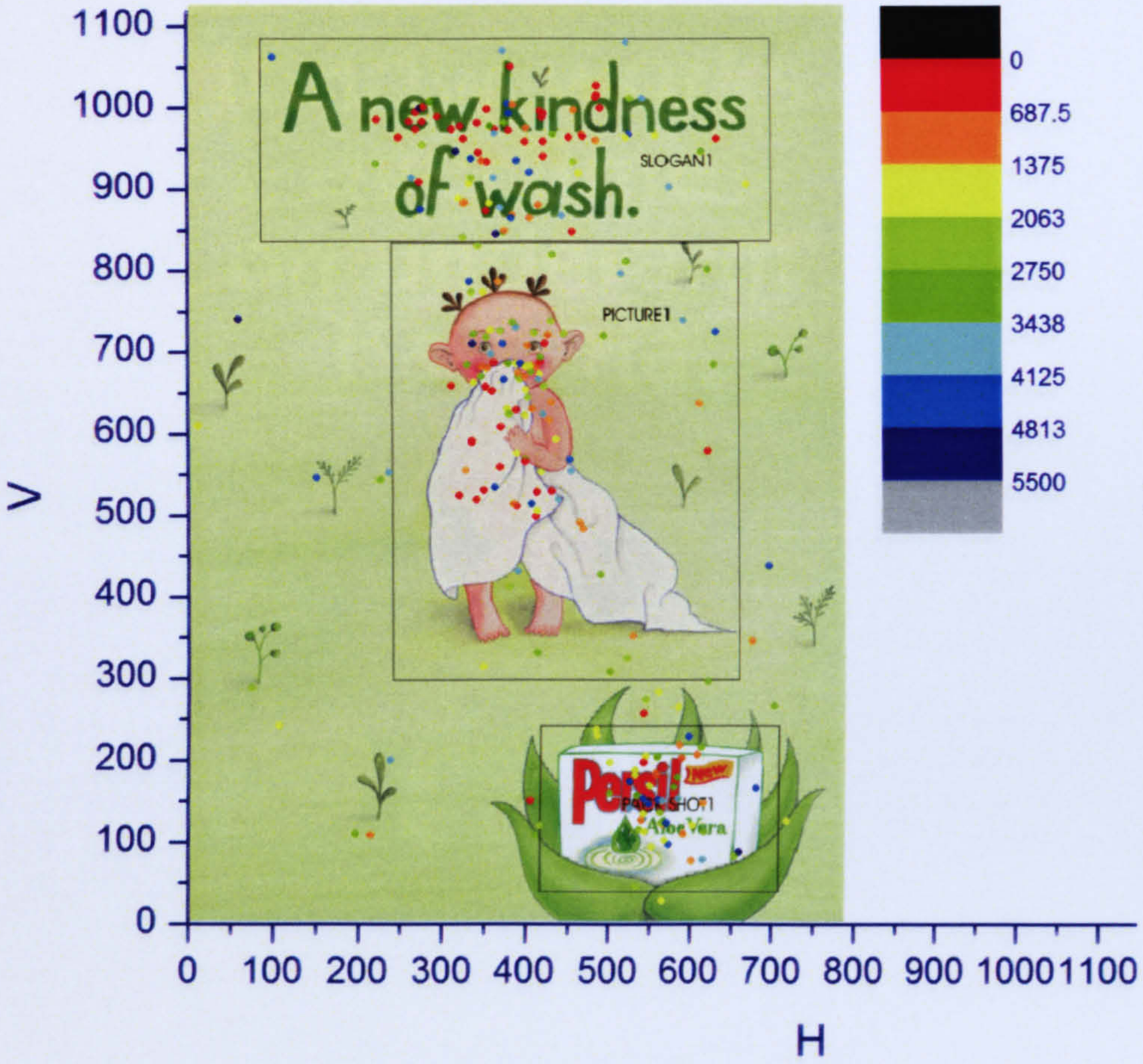

FIG. 49: Persil Poster Ad

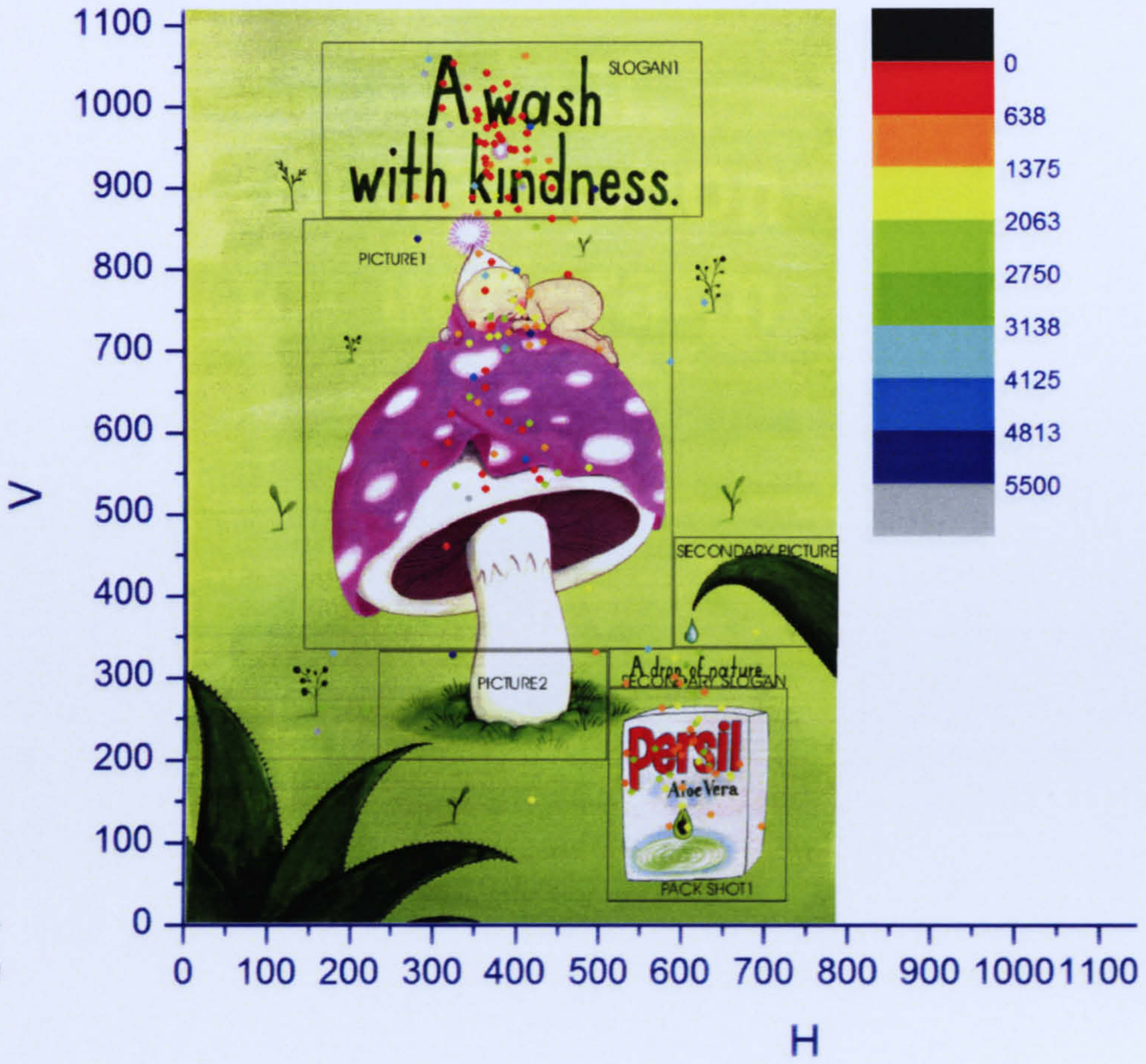

FIG. 50: Persil Magazine Ad

FIG. 51: Sure Poster Ad

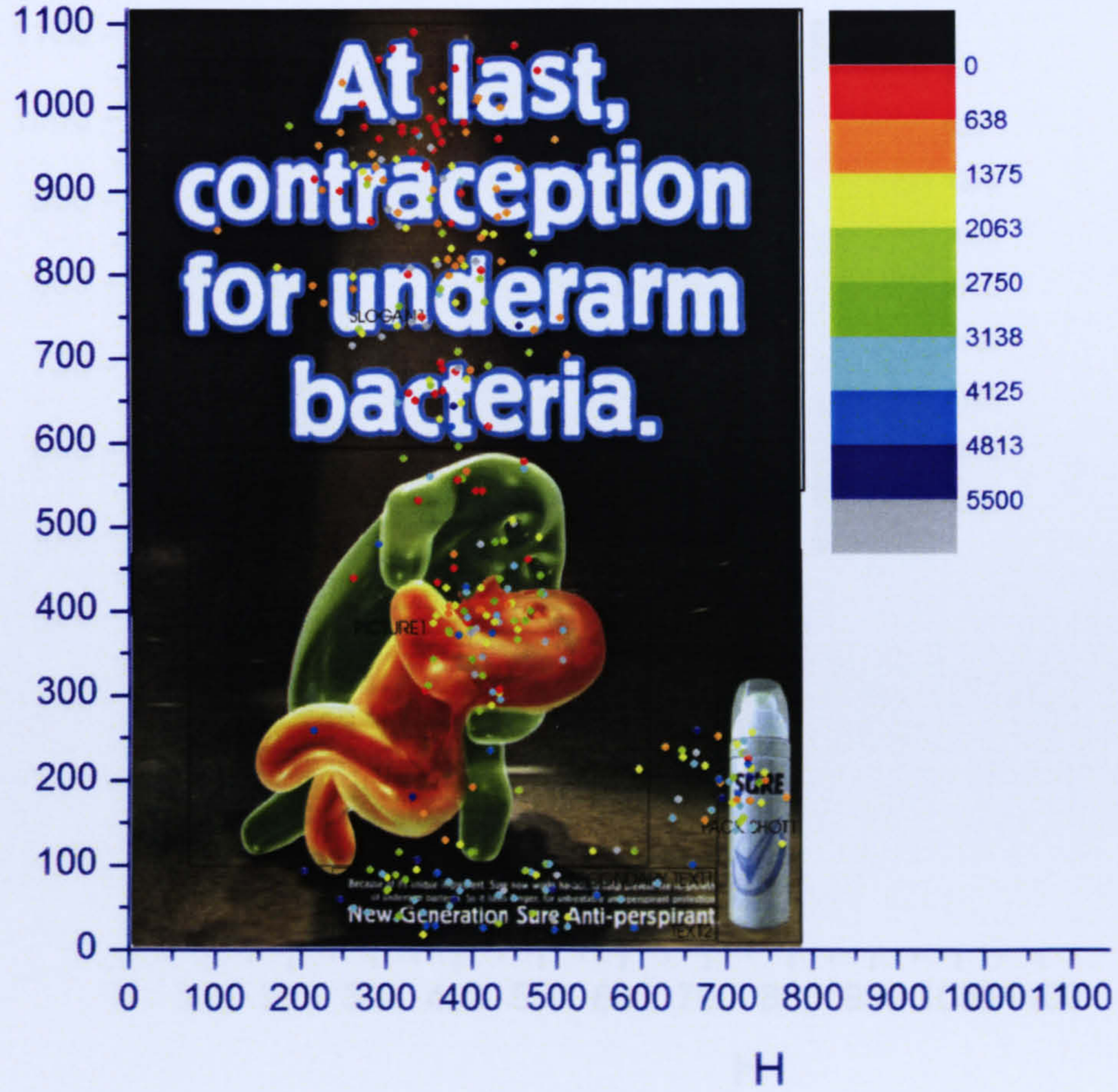

FIG. 52: Sure Magazine Ad

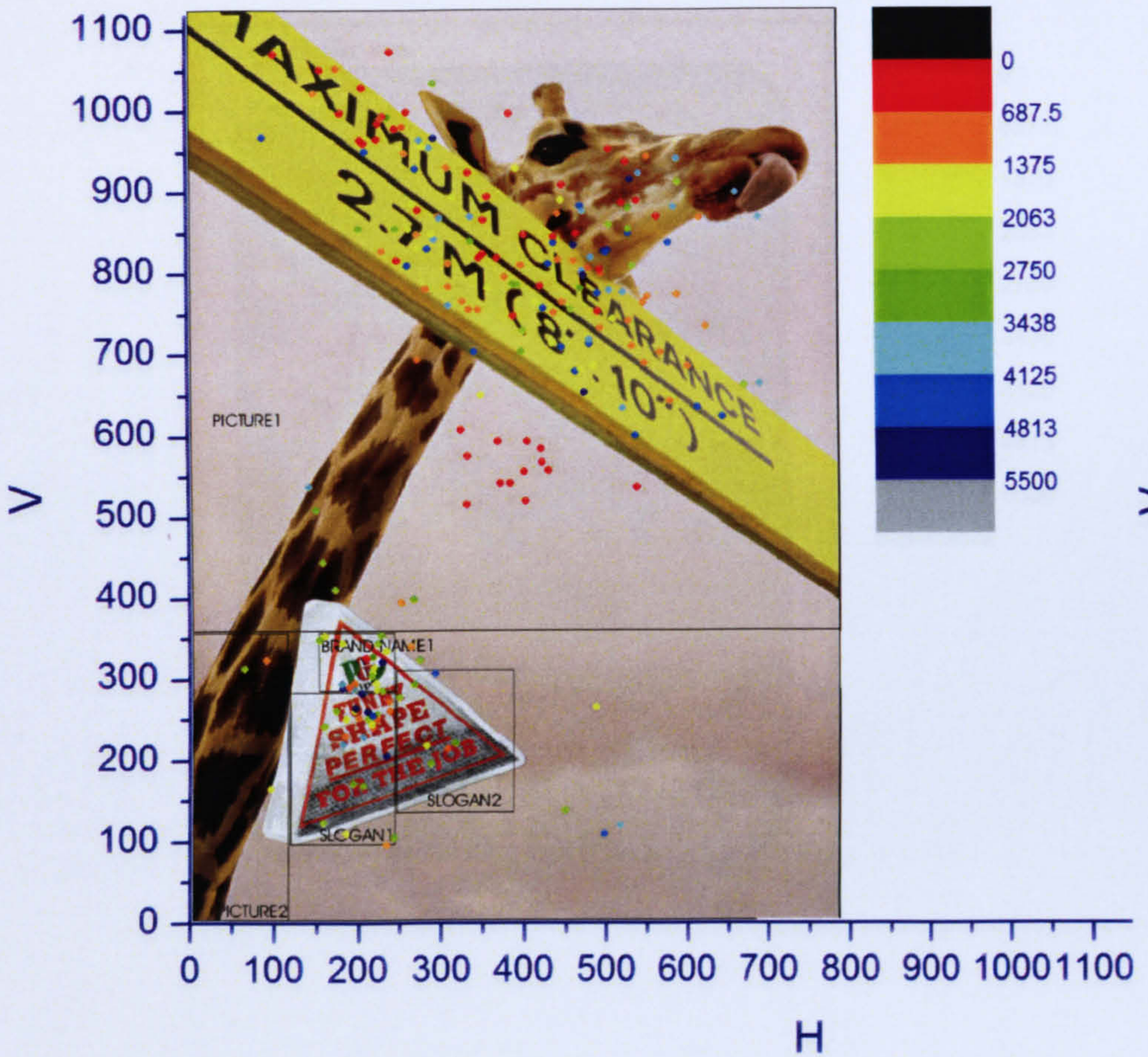

FIG. 53: PG Poster Ad

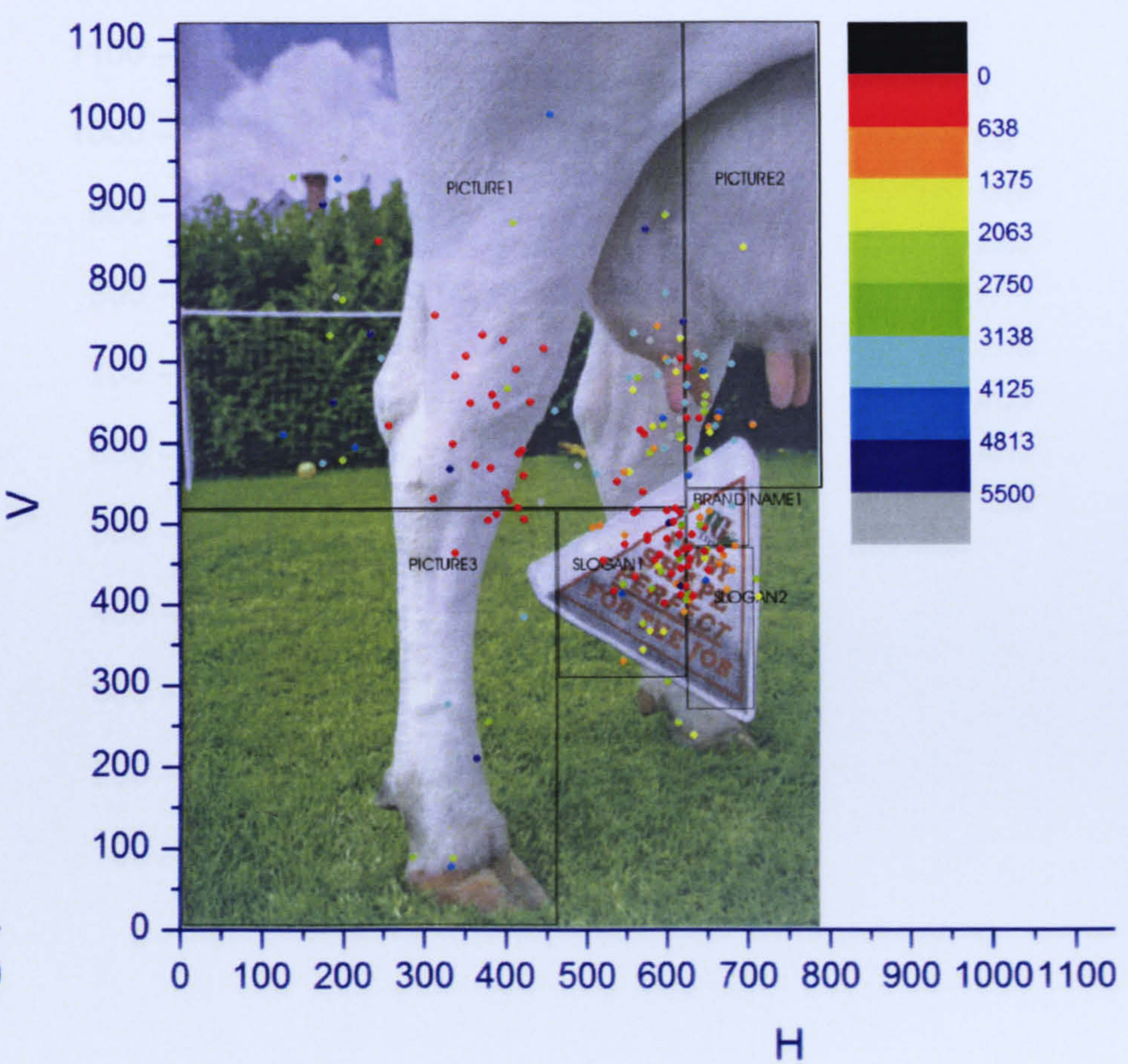

FIG. 54: PG Magazine Ad

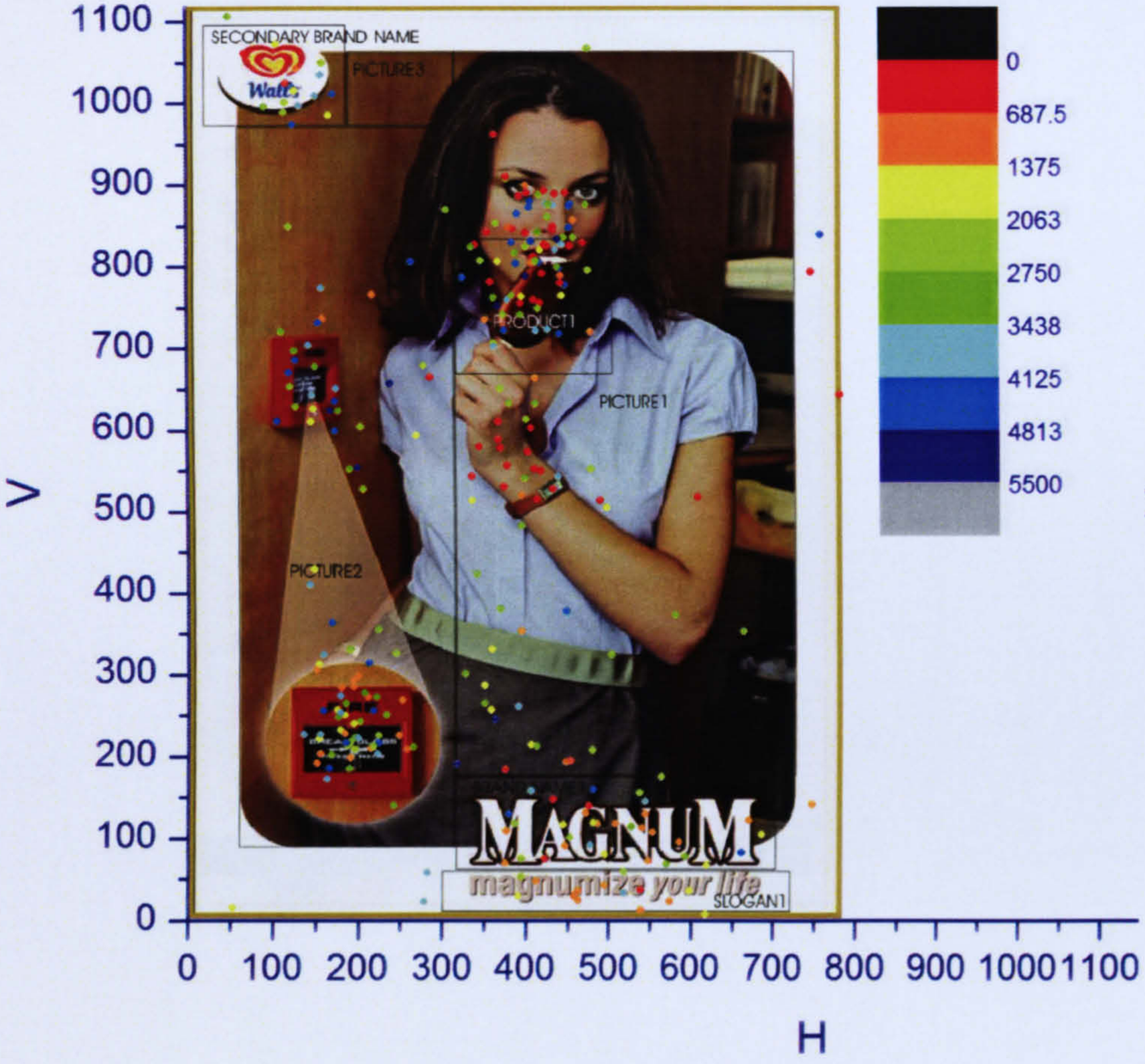

FIG. 55: Magnum Poster Ad

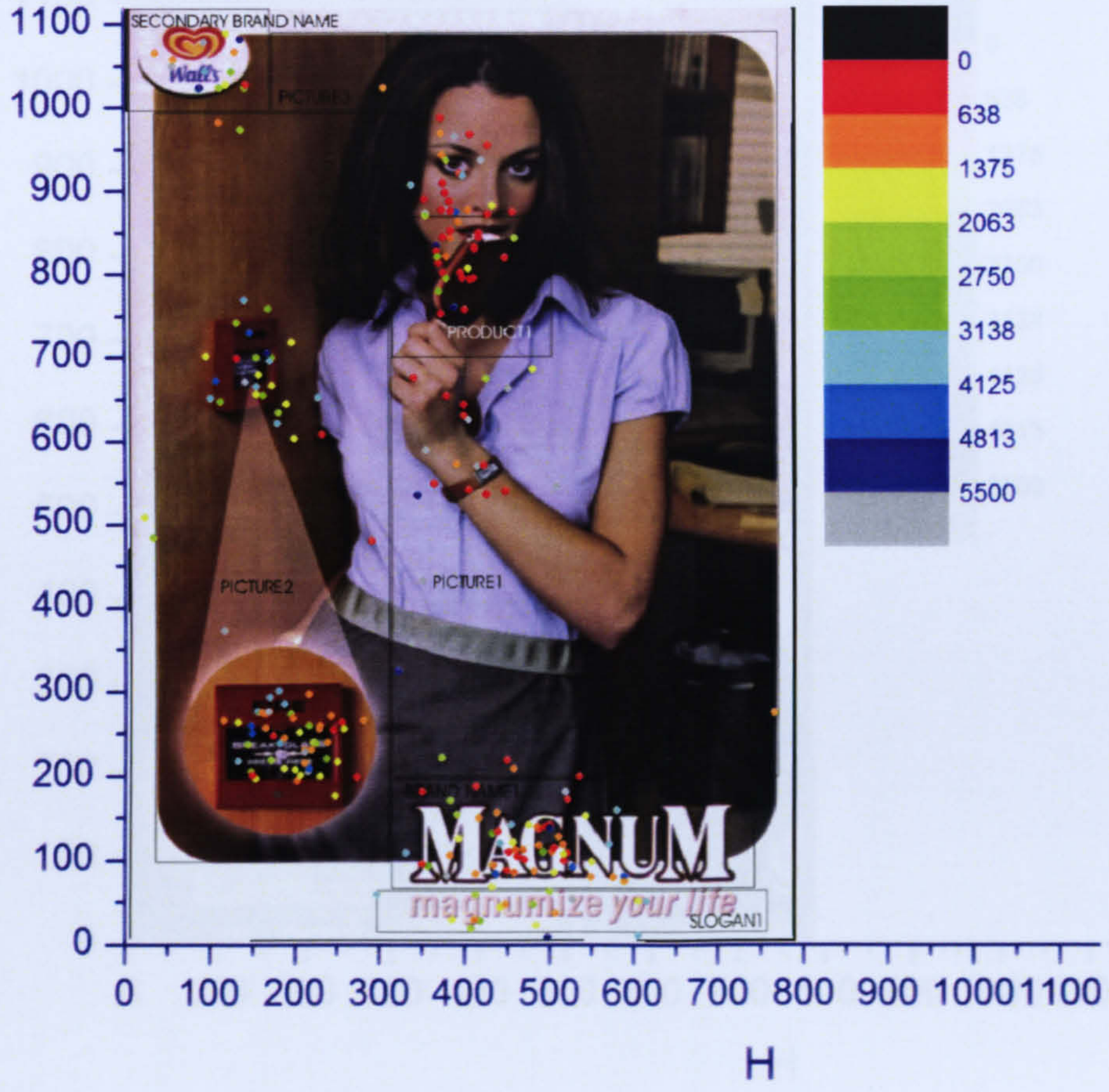

FIG. 56: Magnum Magazine Ad

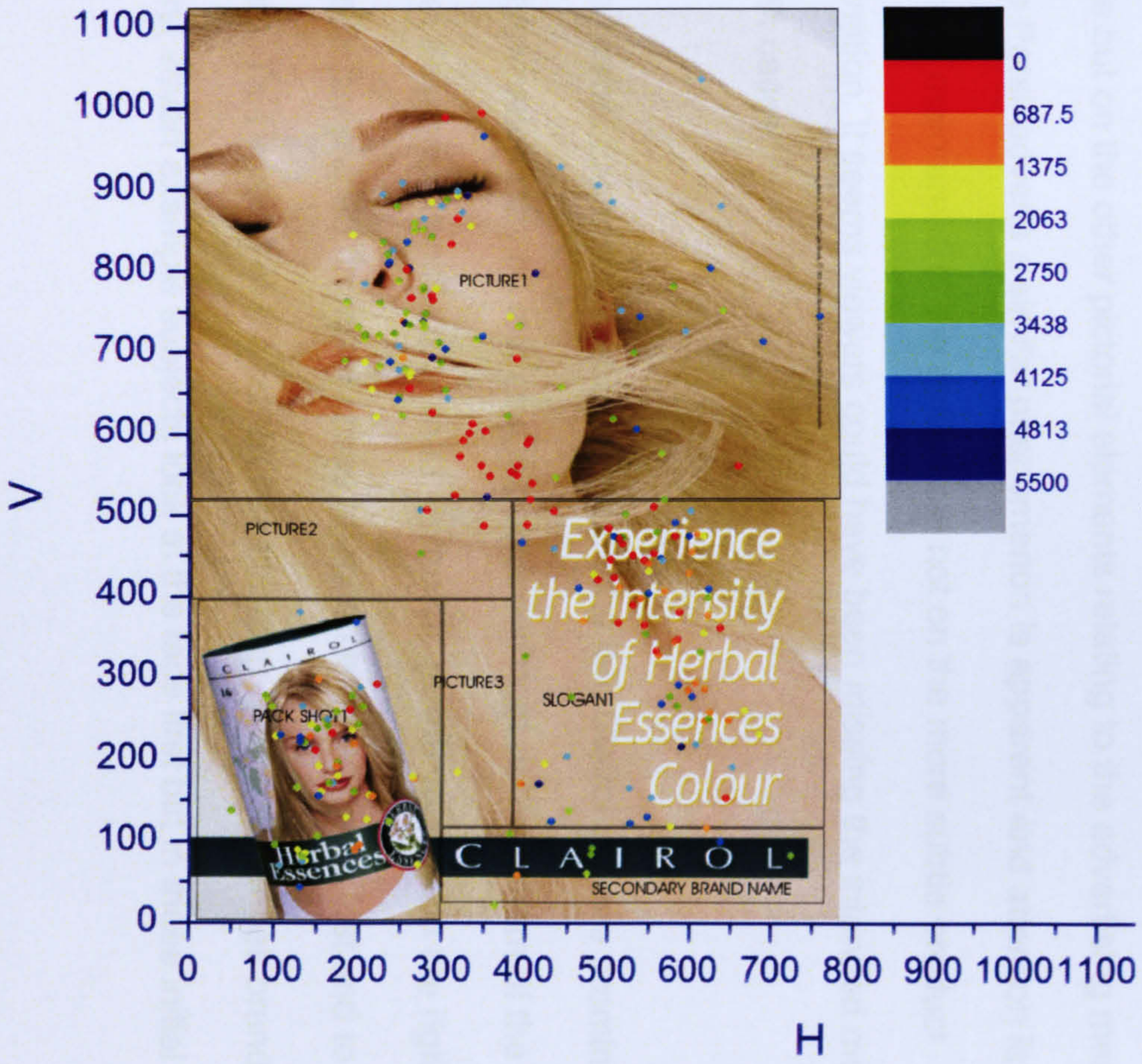

FIG. 57: Herbal Essences Poster Ad

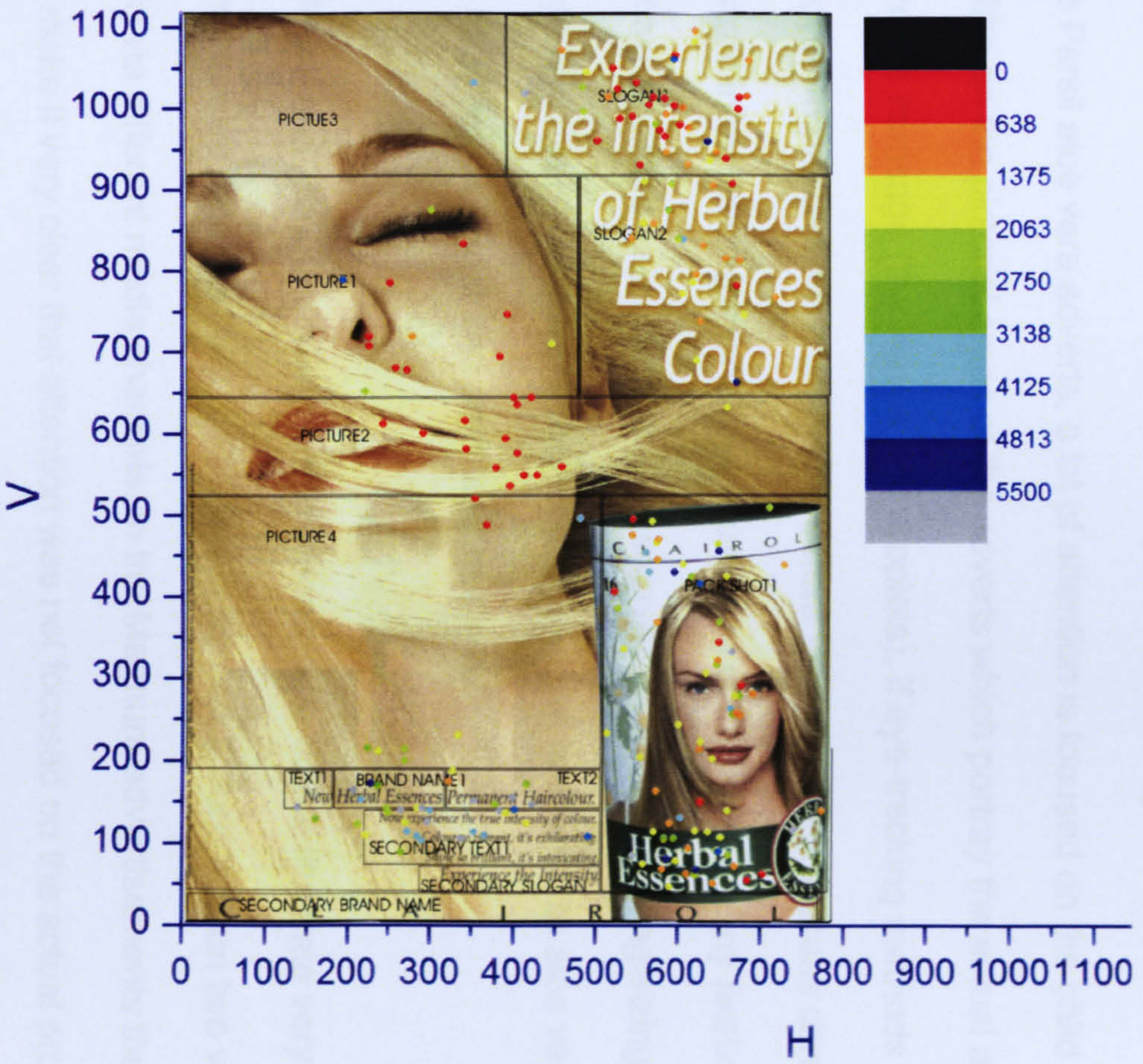

FIG. 58: Herbal Essences Magazine Ad

In the Persil aloe vera adverts, a lot of attention is focused on the child figures, and little on the pictorial areas of the adverts which portray the actual aloe vera part of the message (the leaves and droplets). If eye-tracking methods were employed to pre-test advertisements before they were used, areas containing important information (pictorial or textual) that do not capture any fixations might be regarded as ineffective and removed, or the positioning/sizing changed. In the Persil adverts the product and the reference to aloe vera could have been made bigger and emphasized more.

The Persil and Magnum advert comparisons in particular illustrate very similar eye-movement patterns from the separate subject groups and on two versions shown via different media channels. In the Magnum advertisements the fixation plots make it very clear that attention was not focused on the actual product image but on the other pictorial elements relating to the advertising message. In the Persil adverts a similar phenomenon is apparent and attention is focused around 3 main areas of the design but not on the more subtle product information. It seems viewers could have been missing the intended message in both cases.

In the Herbal Essences poster advert on the left, Clairol is more prominent but this information may be lost as it is positioned right at the bottom of the advert. Herbal Essences is difficult to read. In the magazine version on the right, the text is better placed. In many cases attention is drawn there first and to the face second. This version of the advert has stronger Herbal Essences branding. In the first advert example subjects look at the face first but in these initial first

moments there is no product awareness until attention reaches the bottom half of the ad.

In cases where the brand name or pack shot are positioned at the bottom of the advert in a relatively small space compared to other advert components the information may be lost on some consumers as their attention is taken up on the more eye-catching themes, especially when exposure is only for a few seconds (depending on impact and advertising format).

The fixation clusters in the poster/magazine colour plots above also show that faces attract attention wherever they are present, independent of the layout of the advert or media type. In adverts with the same positioning of main elements where subjects exhibit the same attention patterns, these common eye-movements may be lead by the stimulation of specific advertisement areas such as a face or main slogan/picture. In some cases this impact will be visual and in others attention will be drawn to areas that provide information.

The results table and colour plots below represent the 3 versions of the Surf 99 stains advert, their relative performance on the experimental measures and the capture of fixations across the 3 subject groups during exposure.

TABLE 40: Cross-Media Comparison of Ad Characteristics (Poster, Magazine and DM Ads)

Advert	Medium	Ad Rank	Brand Rank	Liking Index	Impact Index	Recall Index	Ad Descriptions	Brand Associations
Surf 99 Stains	**POSTER AD**	9/32	23/32	101	102	86	Busy Clever Simple	Cheap Clean
	MAGAZINE AD	7/32	21/32	108	74	74	Clear Straightforward Simple	Boring Effective
	DM AD	5/14	14/14	106	141	122	Busy Clever Intriguing	Cheap Young/Fun

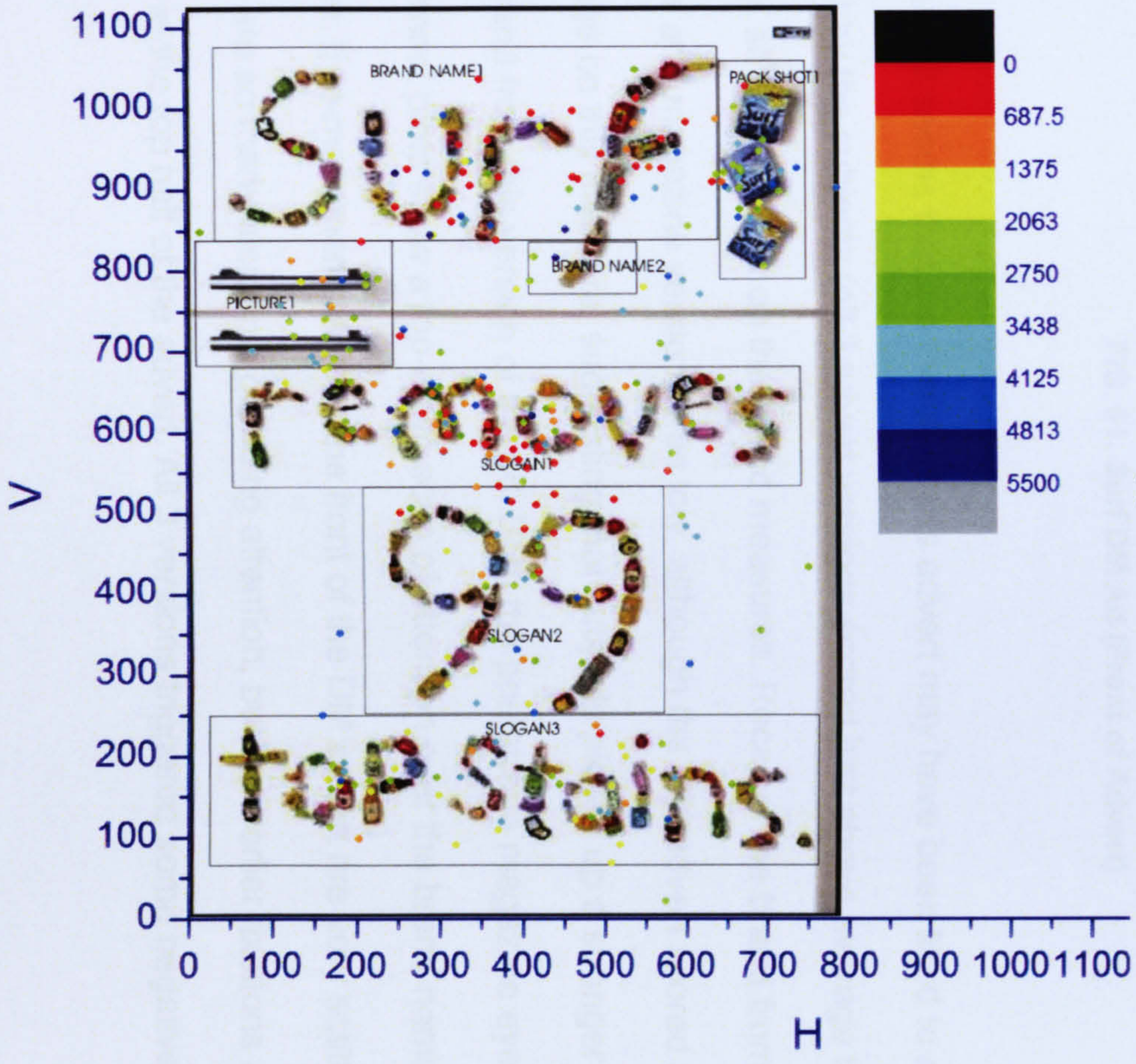

FIG. 59: Surf Poster Ad

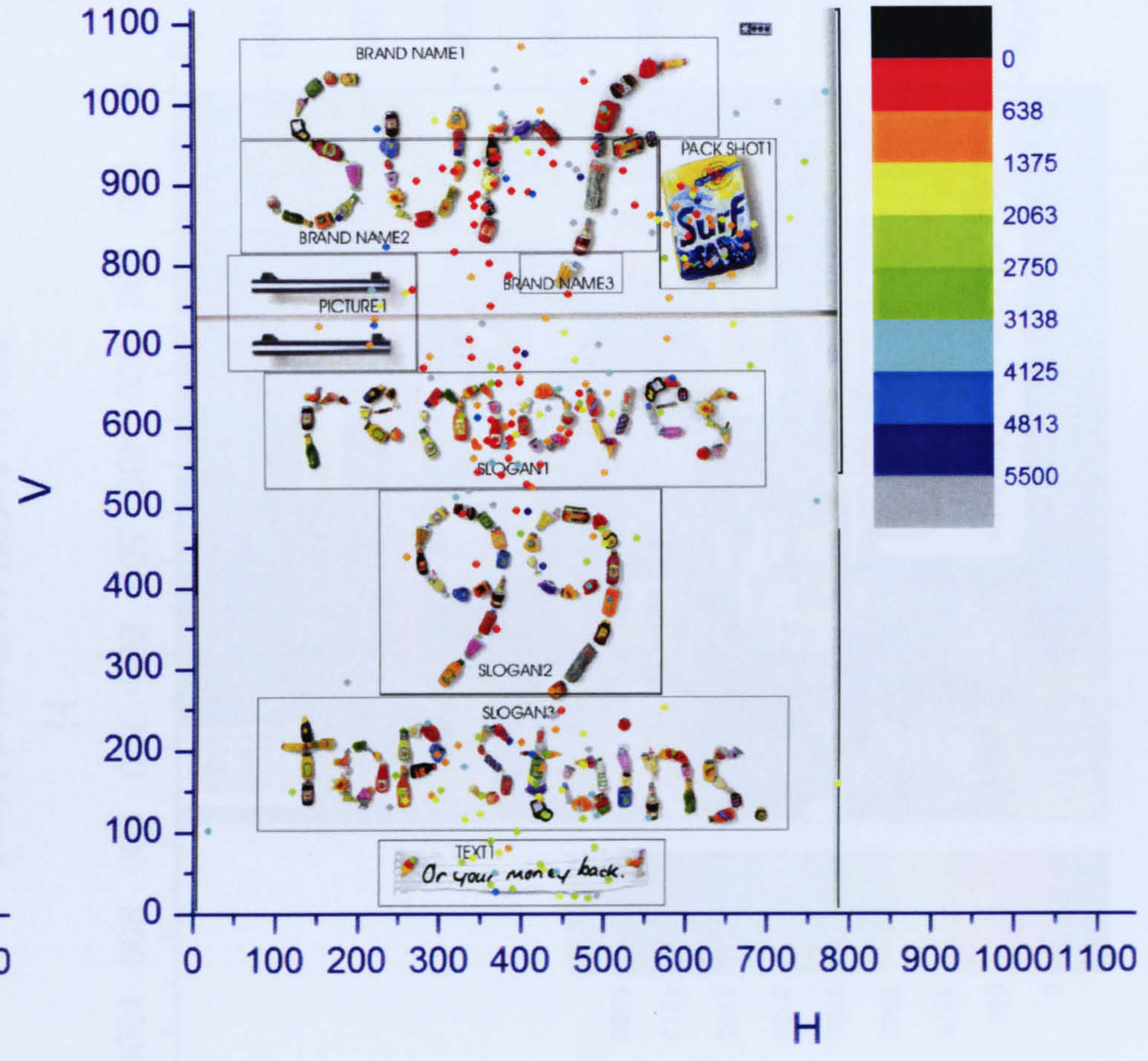

FIG. 60: Surf Magazine Ad

FIG. 61: Surf DM Ad (Front of Advert)

Although it seems that the theme of this advert may have been liked to an extent by the subjects (all 3 advert versions scored just above average for liking), all 3 scored low on the brand measures. Recall of the brand from the poster and magazine versions was low, although the DM advert scored above average on this measure, suggesting that subjects picked up a stronger link to the brand from this version of the ad. Both the poster and magazine eye-movement plots show a top-down scan of attention over the brand name and slogan. Eye-movements across the front of the DM advert are very scattered as there are so many elements grabbing attention, but the earlier fixations appear to be in the top half of the advert. All 3 versions triggered some negative brand

associations and in 2 out of 3 cases the word 'cheap' was a common phrase used to describe the brand impression. The results seem to suggest that it is the overall design of the advertising campaign that has perhaps amused the subjects but failed to leave them with a positive feeling about Surf as a brand. It is not any particular media channel that has heightened or lessened this effect by the way the advert was presented to the audience, even though initial questionnaire responses showed that posters scored higher on the positivity measure followed by magazines and direct marketing.

6.5 Summary

Informational and transformational ratings were not able to identify these distinct categories in the stimuli. However, attitudes to the ad showed distinct differences between top and bottom rated adverts, and best liked adverts were attractive with a clearly communicated message. This was generally associated with a good brand impression, although there were exceptions to the rule. Impact and liking were shown to be closely linked, but links between recall and attitudes were tenuous. Eye-movement plots indicated that initially at least, consumers will be drawn to the same eye-catching elements of an advert, and will tend to exhibit a top-down scan before returning to particular areas. Attention patterns were similar across different media types when the design was the same, and attitude measures also seemed to match, irrespective of the advertising channel.

Chapter 7

Discussion

7.1 Introduction

Several important subject matters emerged during this research and consequently the discussion will be based around the following themes: The use of eye-tracking data in providing useful insights into the cognitive processing of consumers; Studying the relationship that exists between eye-movement behaviour, consumer attitudes and motivations; Identifying the key factor structures that underlie attitude judgements; Outlining how advertisement design can affect and could be affected by eye-movement behaviour and consumer attitudes. The discussion will deal with how the findings may be implemented in the context of advertising research and market strategy and there will be a critical analysis of the research techniques used. It will also review the results of the 3 main experimental conditions in relation to the research hypotheses outlined earlier:

H1 Differences in types of advertising *i.e.* in the media format, design and performance on attitude measures, will be manifested in attention patterns

H2 Memory of the brand name will not consistently relate to specific eye-movement fixations or attitudinal responses to the advertising

H3 More positive attitudes towards the ad will correlate with a more positive perception of the featured brand

7.2 Eye-Tracking Insights into Cognitive Processing

Eye-movement observations provide informed findings around advertising effectiveness. Common themes emerging from each of the 3 experimental conditions imply that adverts will be judged on a set of core characteristics which will form an opinion of the advert and the featured brand. The eye-movement plots in the results chapter showed concentrated clusters of attention, indicating that most participants (who were making fixations on the ad) attended to the same areas during the exposure time. It seems that at least in the initial moments of exposure the direction of attention is led by visual characteristics of the advert and consumers will share very similar if not identical viewing patterns. In many cases, the areas attended to will be the same, even if the order in which they are attended to following the initial seconds of exposure, are not always the same. Other eye-movement studies have found marked differences in eye-movement patterns of consumers under specific conditions. When the size and position of advert elements was varied in 4 different versions of a specially designed stimulus by Rosbergen et al. (1997), 3 consumer segments with distinct attention patterns were identified. Pieters & Warlop (1999) found that visual attention patterns altered with different levels of time pressure and task motivation. However, in these experiments subjects were being tested under conditions in which their motivation or the stimuli were being altered to test for such effects. Pieters, Rosbergen & Wedel (1999) looked at repeated exposures to print advertisements and found that scan paths of attention remained constant across repetitions.

In this study the concentration of fixation points within the first time band shows that the first area of fixation tended to be common across the subject group *i.e.* specific areas in each advert were generally drawing attention before others. The distribution of other fixations over time seems less cohesive in some plots, which suggests that although subjects may have started with their attention in the same area, as the exposure time passes, each person's fixations can vary. This is in line with previous eye-movement literature which has established that over a scene initial fixations are directed by visual features and later fixations are guided by regions that are informative, either in their semantic or visual qualities [Henderson & Hollingworth (1999)].

The fixation patterns for the poster adverts in particular indicate a top-down scanning method in the first few seconds of exposure and the pictorial elements, often the major feature of a poster advert which has few elements due to limited exposure times, captured a large proportion of attention overall (both in terms of the number of fixations and time spent). This was especially true for the top ranked advertisements, which featured central, dominant pictorial elements in most cases. Adverts with a large, bold slogan in the top half of the design showed a high percentage of first fixations there, whereas in other adverts, the picture or pack shot were the principal, and therefore focal areas. Interestingly, in other studies of visual attention, analysis has been focused on just 3 areas of interest within the stimulus advertisements. Wedel & Pieters (2000) chose to define the ad elements 'brand', 'pictorial' and 'text', suggesting these areas are key to assessing visual attention, perception and processing. Perhaps using a simplified set of AOIs in this study would have

yielded different results, and fixation data which was more consistent and subsequently comparable across adverts.

Fixation plots were able to provide a visual representation of the fixation data that enabled some commonalities to be observed. It was evident, especially in poster ads, that rather than the traditional 'Z' search pattern of attention[43], subjects often seemed to display a top-middle-bottom-middle approach to scanning the adverts (see below where the figure on the left is a reconstructed example of the 'Z' pattern and the figure on the right is an example scan path recorded during this study).

FIG. 62: 'Z' pattern

FIG. 63: 'Top-middle-bottom-middle' pattern

[43] Ruel & Outing (2004). The 'Z' pattern refers to a 'zigzag' style of reading across a page. This pattern has been expanded in the poster advert shown here as there are a small number of major elements in this scene.

This pattern occurs in adverts with a specific type of design *i.e.* Main slogan at the top of the advert, main pictorial in the centre and pack shot or other smaller/ secondary information at the bottom of the ad.

Eye-movements across adverts such as these, with fewer elements (perhaps 3 or 4) are easier to predict, as subjects have enough time to attend to all of the main areas, but also, the arrangement is more simplistic and can be interpreted in terms of which element will be initially the most eye-catching, and what kind of attention pattern will follow. This top-middle-bottom-middle pattern manifests an initial 'sweep' down the length of the advert and then a second stage of attention where one area is re-visited. In this case this area is the eye-catching picture which is perhaps the most pleasing component to focus attention on once the consumer has been able to take in information from their initial exploration of the stimulus.

In some ways the layout of print advertisements contradicts the idea that it is the brand advertisers want the consumer to notice, as the brand name and pack shot seem to be much smaller ad elements and often positioned at the bottom of the advert, which means that they are not the first thing attention focuses on. Perhaps it is more important for the advertising message to be conveyed first, which can often be via the slogan or pictorial. The Relevance Accessibility Model pertains that the advertising message needs to be relevant and accessible, which is affected by consumer involvement with the message on exposure to the advert [Baker (1993)]. Results for the top and bottom ranked adverts in this study indicated that adverts with the best scores

contained slogans which were short, straightforward and clear, and usually prominent in the layout of ad components. The fact that these adverts were ranked top overall on attitude to the ad measures means that they scored highly on the 8 ad variables including 'easy to understand'. The bottom ranked adverts tended to have slogans that were not particularly easy to interpret *e.g.* Lion poster advert or text that did not necessarily appear to form a comprehensive slogan at all *e.g.* Ariel magazine advert (see section 5.4.1).

Generally, attention patterns in all 3 media conditions appeared to demonstrate 2 different types of visual processing distinguishable in scene perception. At first attention explores the major areas of the advert (global state) and following this viewers focus on specific details and examine the content (local state) [Liechty, Pieters & Wedel (2003)]. Gould (1976) cited in Pieters et al. (1996) says that people are searching for meaning in stimuli, not for specific targets.

Even though some adverts would not be viewed for more than a few seconds, eye-movement research can tell you what would be viewed by the consumer given a longer exposure time, which in some cases is relevant to real situations. Liversedge & Findlay (2000) contend that "eye movements reflect a large number of psychological processes underlying various cognitive tasks". It may be difficult to access comparable fixation data across adverts with varying ad components, but with specifically designed stimuli eye-tracking can output a quantifiable measure of attention. Without the consistency of areas of interest in a stimuli set, it is difficult to use fixation data to link attention patterns to other

variables such as memory or attitude measures. However, the plotting of fixation data is essential in making consumer focus visible to advertisers.

7.3 Eye-Movements, Attitudes and Motivations

Although the initial moments of exposure to an advert seem to be influenced by the visual impact of ad elements, it is possible that in some other ways eye-movements manifest consumer brand attitudes or motivations. This could be to do with the type of consumer and their particular interests. Mogg, Bradley, Field & DeHouwer (2003) investigated how attention to pictures might be biased by the type of viewer. They showed 20 smokers and 25 non-smokers 20 colour photographs of smoking-related scenes and the same number of pictures with equivalent content but without any reference to smoking in them. They found that smokers looked longer at the smoking-related pictures than the control pictures. Non-smokers spent a similar amount of time on both types of picture.

Cognition and affect represent the 'thinking and feeling' dimensions of responses to advertising and one framework proposes cognition, affect and experience to be key to how advertising works [Vakratsas & Ambler (1999)]. Print advertisements should consider each of these concepts as crucial input into the communication objectives.

Motivations can be affected by levels of cognitive dissonance[44] in a consumer. If they have become unsure about a recent brand purchase, they may display eye-movement behaviour which shows them seeking out information in an

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[44] Festinger (1957).

advert for that brand that will reassure them they made the right choice. Without cognitive dissonance, previous brand purchases could still have an effect on eye-movements. Adverts often act as a form of reinforcement and consumers who have become loyal to a particular brand might display different patterns of eye-tracking to those who have not yet decided on a brand purchase, by concentrating on the affective elements of the advert rather than the informational aspects, for example. In consumers who have certain personality traits, eye-movement behaviour may show them seeking out information that is relevant to them *e.g.* a 'promotionally promiscuous' consumer might show an increase of fixations on the coupon in a piece of DM advertising. Central processing, studied widely in the field of attention [*e.g.* Cherry (1953)] may be used for adverts containing salient products or products that are relevant to recent activity, but not all ads will be processed in this way. As the environment can be 'cluttered' with lots of advertising, peripheral processing will also occur in some cases.

Pre-exposure to an advert is likely to affect eye-movement behaviour as well. Pieters et al. (1999) studied the effects of repeated exposure to print advertisements and found that attention duration significantly decreased across repetitions. In an earlier study Pieters et al. (1996) investigated the impact of motivation and repetition on attention to adverts that varied in their quality of argument. Different versions of an advert for an unknown shampoo brand were used, containing the same areas of interest, but one contained a strong argument in favour of the product and one a weak argument. Subjects were part of a high motivation condition (in which they were given an important

reason to watch the adverts carefully, and promised a choice of shampoo at the end of the session) or a low motivation condition (in which subjects were simply told they were testing draft adverts). The subjects saw the appropriate advert 3 times amongst a selection of non-target adverts. As well as finding that repetition triggered an overall decrease in attention, they found that the order in which ad components were attended to was not affected by repetition or motivation. Initially the high motivation subjects attended to the advert for longer, but not after 2 exposures. In the Dove DM advert used in this thesis, the front of the advertising and the first inside page were exactly the same design. Eye-movement plots in chapter 5 show that the general pattern of attention was the same for both exposures.

Eye-movements did have some relation to consumer attitudes to the advertising stimuli. In some cases in the results of this thesis, eye-movements obviously mirrored the subject attitude responses to adverts *e.g.* in the magazine and poster versions of the Magnum advert fixations were concentrated on the 3 areas that were required to decipher the message, and not on the product or the brand: attitude measures showed this advert was found to be confusing and the message difficult to understand. Eye-movements can also show a true response to a piece of advertising in terms of how the consumer would interact with it in an authentic situation *e.g.* the PG Tips DM advertisement. The majority of participants in this experimental condition said they would read this advert in detail and use the coupon if they received it at home. Eye-tracking showed that subjects did indeed concentrate on the body

text during exposure and there were some very specific fixations on the coupon offer.

Explicit memory measures of advertising effectiveness have been advocated by some [Link (1933), Gallup (1950)] but questioned by others [Heath (2000a), Goode (2001), Perfect & Askew (1994), Lee (2002)]. Early effectiveness theories and tracking studies were based on this type of evaluation which was often 'one-dimensional'. It was difficult to establish a link between recall and attitude to the ad from the results of this research thesis. Generally, the adverts that scored well on attitude measures, impact and liking also had high recall and *vice versa*, but this was not always the case and statistical analyses were fairly inconclusive. It is possible that subjects were able to recognise the advert but not the brand itself. In some cases, eye-movement findings suggested that the consumer could be distracted by some particularly attractive pictorial and perhaps this meant that attention on the brand was lacking *e.g.* Impulse advert featuring the puppy which had high scores on attitude to the ad measures but low recall. In other cases, for example the Magnum advert, the advert was not likeable because the message was confusing, but the advert was well-branded and subsequently recall was good. In this study recall was assessed using prompts of the adverts with the brand name blurred out. In some advertising research this kind of prompted memory measure might be defined as a recognition measure. However, often when subjects are asked to recall brands, in pre-testing for example, this is also prompted somehow. This can be in the form of a verbal cue *e.g.* "did you see an advert for coffee in yesterday's newspaper" or even a question containing the brand name, although the

respondent is usually asked about the central message of the ad before it is counted as 'seen' [Franzen (1999)].

Although no significant relationships were found here between brand recall and eye-movement patterns, previous research has uncovered some evidence for a link between attention to the brand and brand memory. Pieters, Warlop & Wedel (2002) examined the relationship between brand originality and familiarity, attention and recall. They discovered adverts that were both original and familiar attracted the most attention to the advertised brand, and this in turn increased brand memory. Wedel & Pieters (2000) studied attention and brand memory using magazine adverts and found that fixations to the brand and pictorial promoted brand memory although fixations to the text did not.

Even though there was a lack of robust findings between fixation data, recall and attitude measurements in this study, eye-movement techniques do have the potential to link responses to advertising to the visual processing of its content.

7.4 Factor Structures Underlying Attitude Judgements

Statistical analysis was limited, but results did show coherent patterns in several areas. Aggregate scores were used wherever possible, which carry more weight in terms of the conclusions drawn and there was consistency across sets of example adverts where these were used.

Principle components analysis across the 3 sets of results uncovered 3 factors underlying attitude to the ad judgements and 1 factor representing a complete brand judgement. Correlations showed that there was some link between these judgements suggesting that advert and brand perceptions do tend to be connected. However, observations of top and bottom ranked adverts on attitude to the ad measures did identify some exceptions where a particular ad element had increased the likeability of the advert, for example, but had failed to portray the brand in a particularly positive way.

One issue that arose from the analysis of brand judgements was the possibility that participants had struggled to define the attitudes they were being asked about. There was a very strong relationship between each of the 4 attitude to the brand variables, which was interpreted as one overall judgement of the brand being made. It is possible that subjects were not able to identify the different concepts they were being asked to rate the adverts on, however it is also conceivable that one brand attitude is intrinsically linked to another, and judged on the same criteria.

Out of the 3 ad judgement factors, the communication factor, developed from a relationship between informative and easy to understand, showed the weakest relationship with the brand judgement, although many significant correlations were still evident. It is feasible that because the majority of the FMCG adverts had a straightforward message, there was not enough variance to produce a more significant result.

Liking has been thought to be an important factor in advertising models [Franzen (1999), DuPlessis (1994a)] and was assessed as a separate variable to other attitude to the ad measures. Top and bottom advert results did show that those adverts with a higher overall rank on attitude to the ad measures and positive brand associations did also tend to have high liking scores. Liking was also closely linked to the visually-based ad judgement factors and a similar pattern was uncovered when impact average scores were correlated with attitude to the ad measures. It seems that liking is inherently connected to positive ratings on attitude components to do with visual attractiveness, ability to capture attention and generally more emotive aspects.

7.5 Advertisement Design

Some results in this study have indicated that a holistic approach may be appropriate in assessing the perception of advertising. From a Gestalt theory perspective adverts should be considered in terms of a whole concept, rather than the potential influence of each component making up an advert design. Using a specific example, attitude measures showed that both the poster and magazine versions of the Clairol advertisement were judged similarly, suggesting that the media channel has not had a major effect because in this case where the design is almost identical the advert is being viewed in its entirety, as one complete object.

There are, however, some fundamental differences in the way advertisements for different print media channels are normally designed. Magazine adverts tend to include a greater number of defined areas of interest and these areas

are often more complex *e.g.* more text as consumers have opportunity to view these adverts for longer if they wish to do so. Poster advertisements tend to be designed with 3 or 4 main elements as viewing time is limited, when consumers pass-by the outdoor adverts. As the experimental results suggest, this means that poster ads with a clear, direct message will perform better in terms of influencing consumer attitudes in a positive way, and fewer advertisement elements mean that attention will be more evenly distributed and the patterns of attention can be more accurately predicted. Direct marketing content is much more detailed because of the media format *i.e.* very targeted advertising containing product information and offers. The same type of areas will attract attention as in poster and magazine adverts *e.g.* bold slogans or eye-catching pictures, although a lot of attention is spent on textual areas. Subjects in this study spent time reading the body text where it was presented.

Eye-movement research addresses the concept of visual vs. verbal communication. This is also related to the size and position of advertisement elements. Large, bold, bright and more prominent areas will gain and hold the most attention as they take up a lot of space in the design and are inherently eye-catching. Advertising pictures often make up such areas and are also often the most attractive elements of the advert and help to communicate the advertising message. Central pictures along with pictures which form a large proportion of the overall layout will achieve a high % of overall fixations. Positioning of the slogan seems to be important as slogans in the top half of the advertisement layout attract a higher percentage of initial fixations than other AOIs.

As the slogan and the pictorial have often been shown to be the major design elements in the FMCG advertising studied here, they have been best at capturing a higher percentage of initial attention, and the pictorial has also achieved a high proportion of the overall attention in many cases. Exceptions to this rule will be seen, for example, where another advertisement area is particularly dominant in terms of surface area. Advert elements designed to be secondary in terms of their size, such as the pack shot and brand name, are often attended to when the consumers' focus becomes driven by an increasing desire for information and not exclusively by the visual characteristics of the advertising components. This is in line with earlier eye-movement research that has also identified a dominant sequence of attention beginning with the headline and/or pictorial, followed by the pack shot and then body text [Rosbergen et al. (1997)]. Some believe that theory from other disciplines such as art or architecture can be applied to advertising *e.g.* the 'law of thirds' theory which says that when a stimulus is divided into thirds in both directions (horizontally and vertically), attention will be drawn to the intersections [Evans et al. (2006)]. Based on the results from this study there has been one principal pattern of attention demonstrating a top down initial scan that often begins with the main slogan, followed by the pictorial and then the pack shot or brand, and attention often returns to the interesting pictorial element towards the end of the exposure time. It seems this research has shown that consumers fixate on 'complex' areas of the advertisement, which can be textual or pictorial and are complex in terms of the information they contain, not necessarily the format of this information.

Previous research on reading has established that eye-movement characteristics are influenced by a wide range of factors, for example, mean fixation durations are longer when reading out loud than in silent reading [Rayner (1998)]. It is possible that the length of words and detail in textual areas could be affecting the proportion of attention and average length of fixation durations there *i.e.* eye-movements are being shaped by textual qualities. Where text is more difficult conceptually, fixation duration increases and saccade length decreases [Rayner & Pollatsek (1989) in Rayner (1998)].

Other research concentrated specifically on the effects of the size of ad elements has suggested that areas of text capture attention in direct proportion to surface size Pieters & Wedel (2004). However, pictorial areas were best at capturing attention regardless of size *i.e.* these areas were characteristically attractive to viewers.

Colour can also have an effect on consumer reactions to advertising. The colour red, for example, is known to be a stimulating colour and red will stand out on most other background colours, making red text obvious and eye-catching. One example of this from the current study is the Imperial leather DM advert. Jansson, Marlow & Bristow (2004) studied the effects of colour in visual search tasks and found that certain hues helped reduce search times even in a cluttered environment.

Gorn, Chattopadhyay, Yi & Dahl (1997) carried out a study examining the effects of the hue (pigment), chroma (saturation) and value (darkness or lightness) of colour in advertising. They found that advertisements containing colours with a higher level of value had higher liking, linked to the feeling of relaxation elicited. In turn, higher levels of chroma elicited higher excitement and subsequently higher liking. Therefore a direct link seemed to be apparent between colour characteristics, feelings and attitudes. In this study, the best liked adverts appeared to share common characteristics such as an attractive picture, simple layout and straightforward message.

There is also evidence from past research that faces capture attention. Theeuwes & VanderStigchel (2006) quote neuropsychological research which has identified specialized brain areas that respond to faces in particular [Warrington & James (1967)] and they remind us that "the human face is a visual pattern of great social and biological importance". This is mirrored in the eye-movement plots from this study, in which there is a clear pattern of attention focusing on human faces *e.g.* Magnum ad, Herbal Essences ad and Persil aloe vera ads. There is also evidence from these visual representations of attention that non-human faces also attract attention *e.g.* the puppy featured in the Impulse ad.

Although brighter, more colourful elements seem to be generally appealing and are seen in most of the top ranked adverts across the media channels in this study, during exposure in experimental conditions participants are inclined to attend to most ad elements irrespective of whether their design is creating a

positive or negative impression. It is also difficult to separate the effects of size, colour and boldness of AOIs. For example, advertising slogans are usually large, bold and bright, and stand out against the ad background, and it is likely to be this *combination* of factors that is attracting attention.

7.6 Reviewing the Findings

7.6.1 The Context of Advertising Effectiveness Research

The close relationship between psychology and advertising is often neglected [Clark, Brock & Stewart (1994)]. The intention of this thesis has been to design research based around just such a relationship, focusing on print advertisements (poster/outdoor, magazine and DM) for FMCG products in particular.

Industry figures[45] for Europe in 2005 put the total TV and print advertising expenditure for 20 major product categories at €37.25 billion. Food and Personal Care (along with Automotive) were ahead of all other categories with figures of €6.15 billion and €5.66 billion expenditures respectively, and Household Goods was one of the only other industries to exceed €1 billion (€1.9 billion expenditure), thus underlining the importance of effective research into FMCG-centred advertising. Unilever's total investment for TV and print advertising across the 20 monitored sectors was €1,081 billion, including €351m in the Personal Care sector and €183m in Household Goods-related advertising.

[45] 'The Xtreme 200' [XtremeInformation (2006)].

Erik DuPlessis has discussed effective advertising and why advertising should be researched at all [DuPlessis (1999)]. He makes the point that advertisements are not all created equal to one another, as evident in the outcomes of a study carried out by J.P. Jones, in which the brand purchase rates following household exposure to TV advertisements varied wildly across the adverts themselves, from a negative effect to above 90% increase in short term brand purchases compared to households not exposed to the ads. Jones has in the past concluded that advertisements that 'work' are likeable, visual rather than verbal and have something important and meaningful to communicate about the brand [Jones cited in DuPlessis (1999)].

The definition of 'advertising effectiveness' varies across researchers and marketing fields, although Franzen (1999) reports that market effects such as sales and market share are used as the principal criterion of judging advertising effectiveness in all countries where awards are granted. Effectiveness can often depend on the primary goals attached to an advertising campaign, and advertising for different types of product category will elicit different types of consumer responses. The root of much brand marketing is focused on the concept of promoting a Unique Selling Point (USP) to the consumer, to place one brand above its equivalent rivals[46]. This could be said to be of even greater importance in a category such as FMCGs as products are very similar in terms of what they offer and often the only perceived difference will be the brand name.

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[46] Concept identified by Ted Bates & Company circa 1940.

Creating one universal explanation of effectiveness is virtually impossible. Heath is an advocate of the power of association, whereas traditionally, memory has been championed as an indicator of what consumers will take away from an ad. It may be true to say that effectiveness is equal to some positive effect, whether this be an increase in sales, creating an appealing brand image, sustaining loyalty or tempting customers into trying a product or brand for the first time. Advertising can be separated by product type, message, design, audience, medium, campaign length and media mix to name but a few influences. As well as their own direct effects, for example the level of processing associated with different advertising channels, these advertisement characteristics can influence one another *e.g.* the main advertising message will be affected by who the advert is targeted at.

Advertising is usually designed to be demographic specific and focused on appealing to a particular group (or groups) within the population. FMCG advertisements are communicating to those people who shop for the toiletries and groceries *etc.* on a regular basis. Other types of advert will have a highly specific target audience, depending on the brand and the product *e.g.* consumers who have a high income, consumers who have no children or consumers in a particular profession. In some cases *e.g.* the electronics market, the audience will be targeted based on their knowledge, use and openness to new technologies.

The context in which an advert is viewed can also influence how it is processed and subsequently its potential effectiveness. This may be to do with other

stimuli present *e.g.* editorial pages in magazines or distractions present during TV commercial breaks. Some studies have also proposed that the mood of the consumer can affect how they react to advertising [Batra & Stayman (1990) demonstrated a facilitating effect of positive mood on brand attitudes in a print advertising study].

Depending on the scale of the campaign and the mix of media channels, consumers can be exposed to any particular advert a number of times. Some research has suggested that the originality or familiarity of adverts can affect attention focus and brand memory [Pieters et al. (2002)]. Various eye-movement studies have investigated advertising in an attempt to outline models of the effects of frequency of exposure. Pieters et al. (1996) found that repetition decreases the overall amount of attention although the order in which advert areas were viewed was not affected by repetition or the motivation level of the subjects. In exploring motivation, Rayner et al. (2001) found that when given a specific instruction to attend to a certain type of advert (*i.e.* motivation was created), subjects did spend more time looking at that type of advert in a group of 48 advertisements of mixed product category.

Two schools of thought exist in the field of advertising. The 'attitude to the ad' (A_{Ad}) school place most importance on the advertising itself in generating positive feelings and perhaps imprinting the brand on memory. The 'attitude to the brand' (A_{Br}) school believes that attitudes to the brand created by the advertising are what matter, irrespective of the consumers' perceptions about the actual advertising [DuPlessis (1994b)]. Although the measures used in this

research included advert and brand attitude assessments, the basis of these questions was attitudes to the advertising, and attitudes to the brand based on the impression created by the advert.

Based on past research into the performance of different types of advertising across many different measures and the results of this study, it is proposed that the most important role of any advertisement is to essentially create positive impressions about the brand in the mind of the consumer, while anticipating that it will be these positive thoughts that will ultimately influence their purchase decision. The detailed study of specific kinds of adverts will first of all help to create a set of advertising guidelines that can be understood more clearly and are supported by scientific research, and also help to predict how similar adverts will perform in comparable circumstances.

7.6.2 Evaluating the Hypotheses

To evaluate the outcome of this study we must re-visit the original hypotheses and consider how far each one can be accepted.

H1 **Differences in types of advertising *i.e.* in the media format, design and performance on attitude measures, will be manifested in attention patterns**

Attention patterns represented by fixation plots have shown that in general, subjects focused on the same ad areas throughout the exposure time. Clear proportions were evident which could identify common areas where early

fixations were made. Across all 3 media the slogan and picture were areas of interest that consistently captured large amounts of attention. Top-down scanning patterns were shown in the scatter of fixations and in the proportion of initial fixations. Not only do the slogan and picture contain information about the advertising message, they tend to be positioned in a top (slogan) or central (picture) position and are designed to capture attention *i.e.* they are proportionally large areas, bright and bold.

Size combined with position of AOI may be one of the most reliable predictors of where initial fixations will be, and size in particular where the most time will be spent overall. However, there could also be an effect from the complexity of the images involved. The content and nature of the areas is also important *e.g.* verbal information, pictures, complex text.

Fixations seem to be drawn by the dominance of AOIs in terms of their size, positioning and eye-catching element first, and for their informative/relevant characteristics later *i.e.* fixations on the slogan and pictorial occur first and brand name fixations come later.

The recent eye-tracking study by Pieters & Wedel (2004) discussed earlier, defined the brand, pictorial and text as key ad elements. Following the analysis of data from 1363 print adverts and over 3600 consumers, several conclusions about the 'superiority' effects of these main elements were made. The pictorial is best at capturing attention, independent of its size, while the text is best at capturing attention in direct proportion to its size The type and number of

stimuli used in this research investigation was not sufficient to test this relationship statistically, however, observations from the colour plots and deductions based on distribution of attention figures support the above findings. There is a potential for the attention on advert areas to identify what processing influenced advert attitudes, and generally show what was of interest to the consumer within the ad.

A lot of the trends were evident across the 3 types of media, suggesting that some general rules are at play. One eye-movement trend mentioned earlier is the conflict between pictorial and textual areas of information. Previous research focusing on gaze behaviour in target exercises has identified an 'economy of gaze' in some subjects who record "lower frequencies and longer duration of fixations on critical locations in the targeting space" [Vickers (1996)].

Attention on the pictorial can be associated with both positive and negative judgements. Each type of advertising media will also have individual trends based on the advertising elements they contain (DM adverts contain a great number and more detailed AOIs than poster adverts, for example, and within these ads special offers are appealing), but there is evidence for primary visual processing patterns which, if defined further, could be used in a predictive capacity.

Initially it seems that it is the visual characteristics of advertisement elements that capture attention and therefore common patterns will be seen across a target audience. Throughout exposure time the main areas of interest will be

attended to, although the order and concentration of attention may vary. Within a specified target audience, who will have similar motivations in terms of their shopping habits and purchase needs, the variance will most likely be linked to how the advert itself is being judged *e.g.* if the message is clear or if the advert has generated a drive to learn more about the brand.

In terms of the outlined hypothesis, differences in advert design can be manifested in eye-movement patterns *i.e.* the positioning of advert elements can affect where attention is drawn and in what order, however, the results have not been able to show any absolute differences in attention relating to the attitudinal reactions to advertising stimuli.

H2 Memory of the brand name will not consistently relate to specific eye-movement fixations or attitudinal responses to the advertising

This hypothesis has been supported by results across the 3 experimental conditions. Recall does not represent the fundamental purpose of most adverts, and that is to affect consumer impressions of the brand. Creating the most positive associations is what will influence a purchase decision between two brands which could equally meet customer needs in terms of the role of the product [see Heath (2000a)]. The experimental results suggested that the principle role of recall is to test how well-branded adverts are, but not to predict purchase behaviour. Recall scores were inconsistent among the top and bottom ranked adverts. In many cases, well-liked adverts showed very low recall *e.g.* Surf DM advert and adverts with low scores on attitude to the ad and

brand along with negative brand associations, scored high on the recall measure *e.g.* Magnum poster and magazine adverts.

In a study such as this where existing advertising is used as stimuli, it is highly likely that the subjects will have some experience of the featured brands. Zajonc (1980) discovered that after subliminally exposing subjects to shapes, those they had been exposed to were subsequently rated more preferably than those they had not seen before. As this effect on liking can occur whether the individual has conscious memory of seeing the stimuli or not [Goode (2001)], a direct link is not always easily established. However, pre-exposure could still potentially have an effect. Previous studies have overcome this by not only designing the advertising stimuli as part of the experimental process [Rosbergen et al. (1997)], but by also creating a new brand to feature in the adverts [Pieters et al. (1996)].

What is important is not whether a memory trace can be established following exposure to an advert, but how an advert influences the brand choice when a purchase decision is being made [see DuPlessis (1994b)]. Brand associations recorded by the subjects can indicate what type of brand perceptions an advert has potentially created in the consumer's mind.

H3 **More positive attitudes towards the ad will correlate with a more positive perception of the featured brand**

In assessing the top and bottom adverts in each media category, a general trend was evident between the judgement of an advert on attitude to the ad variables and judgements and perceptions of the featured brand. Although each advert varied in its components, those with high advert ranks generally exhibited high liking, impact and high brand ranks along with positive brand associations, indicating the adverts were creating a good impression of the brand that could have an effect on later purchase decisions. Correlations between ad and brand factors also indicated such a connection.

There were exceptions to this rule where positive ad and brand attitudes were not linked *e.g.* Impulse poster advertisement. In this case eye-movement observations can indicate the visual processing that occurred and help to explain why certain judgements were made or scores achieved. The Impulse colour plot showed a clustering of fixations on the image of the puppy and a pull of attention away from other ad areas, suggesting that this image elicited positive advert perceptions but this positivity did not carry through to the brand. Qualitative data such as brand associations can expand on reasons for attention patterns and attitude responses.

7.6.3 Applying the Findings

Although collected from subjects based in one region of the UK, the results represent trends evident in this sample of the 'housewife' demographic and these particular sets of FMCG adverts. Results cannot be generalised to the population as a whole, or to male consumers as all recruited participants were female. Although the eye-movement literature discussed as part of this study

has not presented any gender difference findings, there is a potential for gender to have an effect on the way advertisements are viewed. Of course this could also relate to the general consumer motivations discussed earlier as well, and differences could also be evident in attitude judgements. It would be of benefit to carry out a similar study with multiple, clearly defined consumer segments to see if attitudes and visual attention are linked to differences in age, gender, shopping habits and socio-demographic background, for example. Response to different product types would also be of relevance, as some product ranges may see stronger effects of subject type than others. This type of analysis is seen in consumer reports such as those by Mintel, which study products by 'typologies' from age, gender, life stage and media usage information, for example.

The findings of this study can indicate the potential of advertising research in uncovering patterns of behaviour and attitude effects which can further our understanding and expand our knowledge about the processing of advertising during and following exposure, but the following suggestions should be contemplated with consideration for the type of consumer they apply to. This thesis has outlined advertising effectiveness to be the ability of an advert to create a positive brand impression that can influence later purchase decisions. Although a positive brand perception will be an aim of any advertising, part of the advertising planning process should be to outline all of the aims of a particular advert and consult advertising literature in choosing the most appropriate media channel and style to communicate these objectives to the target audience. In this study FMCG adverts with a straightforward message

performed well across all 3 viewing conditions. There could have been a better analysis of results across product types had the number of adverts in each group been extended, or fewer product types been used. However, there are some conclusions appropriate to FMCG adverts as a group that can be proposed here.

- Communicate the advertising message in a straightforward way; pictorials have more effect when they are particularly relevant to the target audience and not confusing or requiring too much interpretation

- Considering the initial combination of a top-down scanning method and the attraction to prominent elements, any area which needs to be brought to the consumers' attention first should be in the top half of the ad, and/or be particularly bold and stand out *e.g.* in contrast to the background area

- To provide further information about the brand, a pack shot and brand name area should be included as these will be attended to, but after the initial fixations, unless these areas are made larger

- Define the advertising message based on a theme that will appeal specifically to the target audience and create a message that can generate appeal for the brand by creating an overall positive impression

- Communicate the message effectively through the visual presentation *i.e.* an attractive, eye-catching design and through the content *i.e.* make the message clear and believable

Although there is evidence that in most cases positive attitudes to the advertising will enhance the brand associations formed, it is important to also consider that with existing brands, past experience or knowledge of that brand is likely to have an effect on the brand appeal.

In terms of content and visual design there will also be trends that become particularly relevant at any one point in time. For example, new adverts for some of the products tested as part of this study show an interesting lean in direction towards an environmental message (see Lenor and Comfort adverts below, featured in a recent edition of Good Housekeeping magazine).

FIG. 64 & 65: New Lenor and Comfort Magazine Adverts

7.7 Critical Analysis of Research Techniques

7.7.1 Eye-tracking Methodology

Eye-movements in this investigation were studied not only in terms of the overall proportion of attention across different areas of interest, but also in terms of the position of early fixations. Initial fixations within the first 1000 msec indicate what attracts attention and holds it in the first moments of exposure. After this time, the effects of personal motivations and ad-specific elements become increasingly likely to have an effect. Personal motivations, likes and dislikes cannot all be controlled for, even when a specific task is in play.

Subjects were asked to judge the adverts as if they were being exposed to them in a 'normal' viewing situation and no specific instructions were given. However, the integration of questionnaire measures and eye-movement data is relatively complex, and investigating a narrower range of variables through defined tasks in eye-tracking studies could yield results which are easier to interpret and suitable for more rigorous statistical testing.

Eye-movement data can be used as a tool for predicting visual processing based on fixation clusters. As the use of this technology in advertising studies becomes more commonplace, our knowledge of what attracts attention, what holds attention and what influences the order of attention will develop. Although eye-movement data can provide valuable information for advertising theorists, creative departments and marketers alike, the conditions in which it is used need to be quite specific. Eye-tracking can provide observational information

about consumer attention across a scene, but if the areas of interest are not uniform or small in number, universal rules are difficult to establish.

7.7.2 Questionnaire Measures

The questionnaire methods used within this study worked in terms of integrating them into the experimental sessions, although the results showed that subject responses on some measures appeared to be judged on the same criteria. The attitude to the ad and attitude to the brand measures were designed to represent a range of evaluations the consumer would make in reacting to the advertising and the featured brand. The results showed that in fact, there were a small number of concepts underlying these evaluations. Increasing the subject sample size may have enhanced the identification of such trends (and eye-movement trends). Attitude variables could have been designed to be more specific, and in many ways these evaluations became a more 'imagery-based' set of measures.

In the experimental environment subjects are asked to make judgements they might not normally think about, although the adverts in this study were compared against one another across the same attitude variables. By the very nature of questionnaire methods, the analysis of the results relies on the ability of the subject to be honest and accurate in their responses and to interpret the questions correctly.

7.7.3 Ecological Validity

Ecological validity can never be perfect in studies that involve some kind of laboratory-based experimental procedures. In this case, eye-tracking was able to record true attention patterns but there were some compromises in terms of the limited head movement of the subject and the laboratory environment. There was also a potential influence of experimenter effects. Although participants were encouraged to view the adverts as they would at home, in a 'genuine' situation, they could have been affected by the pressure to respond in a way they perceived was expected by the experimenter or would be in line with the aims of the study.

Unfortunately, eye-tracking methods such as those used in this study require a certain amount of experimental control and the results need to be interpreted with this in mind.

Chapter 8

Conclusions

8.1 Defining and Measuring Effectiveness in Advertising

Measuring advertising effects is complicated due to the many possible influences that could be affecting consumer reactions, even in a relatively controlled environment. Separating one influence from another and one type of response from another is very complex.

Thinking about the aims of this thesis, there are some conclusions that can be drawn from output across the 3 experimental conditions:

1. Advert and brand perceptions are fundamentally formed on a small number of attitude components
2. Adverts that score well on attitude to the ad judgements *generally* show high brand ranks and positive associations
3. Recall is linked to brand experience and its effects cannot be reliably measured in this type of study
4. Initial attention patterns are similar across individuals and can be predicted in adverts with relatively few main elements

It was evident from the results that there were definitely overlaps between attitude constructs when brand judgements were being made. In experimental situations such as this, subjects might find it difficult to respond to measures that force them to try and separate attitudes into individual responses. In addition, in cases where 'real' brands are used in testing there will inevitably be some effect of brand experience on brand attitudes. The experimental conditions required for eye-tracking also trigger the potential for experimenter

effect, whereby the subject wants to display attention to the advertising stimuli they think is expected or desirable. Unfortunately this is part of a compromise between having an ecologically sound viewing environment and being able to collect accurate fixation data. Through the use of eye-tracking this thesis has allowed testing of things that could not normally be studied in a real-life environment.

Showing any advertising to consumers is likely to increase sales simply through awareness, but studying advertising effectiveness is about predicting specific effects and optimising advertising potential based on the type of product, advert and medium. The role of consumer motivations and cognition and affect are also important. The level on which an advert appeals to consumers should consider their relationship with the brand and the type of information they are going to be searching out in the advert. Overall, advertising effectiveness cannot be defined by an absolute set of rules as there are always exceptions, and the effects of personal variables are infinite. However, through pre-testing and the study of the relative successes of past advertising, it is possible to predict which adverts will be more effective than others in achieving their specific goals.

Effectiveness can be predicted although this may be in examining a catalogue of pre-testing results from previous advertisements and not necessarily by projecting findings directly on to new advertising campaigns, as each advert will have a unique combination of factors influencing the consumer response, including the media channel, frequency of exposure, level of processing, target

group and advertising message, number, position and size of ad elements, creative design and brand involvement to name but a few. However, advertising literature can continue to add to the base of knowledge on each of these factors, and creating an advert utilising this information will increase the potential for effectiveness in practice. Effectiveness research does not negate the need for pre-testing.

8.2 Elaborating on the Outcomes of this Research

In 2006 The Money Programme[47] reported that following the launch of the Dove 'real women' campaign, sales of its firming product rose by 700%. This advert was judged the best across the board in the direct marketing condition in this study and suggests that the measures used here do reflect the real performance of this advertising. However, comparing the results of studies such as this one to sales figures is not able to tell us whether the effects of the adverts in this context actually relates to consumers' purchases following the run of a marketing campaign that involved a mix of media, advert designs and promotions.

Planning further experiments in which the predictions created from the outcomes of this study are tested would be more appropriate. For FMCG advertisements in particular, a number of factors that could potentially enhance the effects of advertising on consumers in terms of their attitudes and perceptions of the brand have been outlined. A potential extension of this research would be to select 2 sets of adverts, one group that conforms to these

[47] BBC The Money Programme: The Beauty Backlash, broadcast on BBC 2 (23/06/06).

'rules' and one that does not. Using a subject sample within the FMCG target audience these adverts could be tested in terms of attitudes to the ad, attitudes to the brand and brand associations, and the 2 groups compared to determine if a distinction is in fact evident between the 'good' and 'bad' adverts. The adverts below represent examples of advertising that do and do not conform to the objectives (advertising examples provided by Lever Fabergé UK).

FIG. 66: 'Conforming' Ad Example

FIG. 67: 'Non-conforming' Ad Example

The magazine advert on the left encompasses an attractive pictorial along with a clear message communicated directly by the top-positioned slogan. The large pictorial would capture attention and further information has been provided by the pack shot and brand name. The positioning of the main elements is conducive to a top-down scanning pattern of attention. There are 3 or 4 main elements which represent an appropriate number of areas to visit during a

realistic exposure time. The advert on the right, however, does not appear eye-catching or attractive due to its subdued colours and generally subtle elements. The message is unclear and the ad is generally confusing. The target audience would be likely to assess the first advert much more favourably, and take away a positive brand impression, but would probably find the second advert unappealing and uninteresting, showing repeated fixations on the central numbers and text in an attempt to connect this information to the brand.

As proposed by Heath and supported by Goode [Heath (1999b), Goode (2001)], it may be the associations that come to define brands in our minds but only exert an influence and become apparent when we are making a decision between brands that are most important.

8.3 The Direction of Future Research

8.3.1 Eye-Tracking

Forced attention has been a disadvantage of eye-movement studies up to now, but the development of less intrusive eye-trackers will eventually mean this effect is lessened if not eliminated. ASL[48] has now developed the Mobile Eye, a lightweight wearable mobile eye-tracking system that allows subjects to move around in 'real-world' situations. In an advertising context this would lessen the effects of environmental constraints on collecting samples of attention from consumers.

[48] Applied Science Laboratories (www.a-s-l.com).

In controlled settings eye-movement output (including fixation data) can still provide essential evidence in a wide range of research areas such as colour perception, reading skills, cognitive search strategies [Hornof & Halverson (2003)], sexual selection [Becker et al. (2005)] and attentional bias [Maner et al. (2005)]. Eye-movement technology has also been used in the field of psychiatry, to assess performance on visual tasks of schizophrenic patients, for example [Iacono, Tuason & Johnson (1981)]. Analysis methods are also evolving and are likely to continue to move from a basis of fixation proportions to predictive models of fixation behaviour.

An area of interest that would be of particular significance for further research in the field of advertising is the study of consumer predictions of attention patterns and eye-movements measured using eye-tracking *i.e.* what do consumers say they will look at in an advert and what do they actually view during exposure? Is it the same?

8.3.2 Advertising Research

Established measures of effectiveness are often based on assessing the audience response to advertising once a campaign has been run. Some companies may employ focus groups or small-scale surveys to gauge the reaction of the target audience and may use these findings to implement minor changes to advertising before the campaign proceeds. However, it is proposed here that research on the cognitive processing of advertisements should not only be conducted in order to provide predictive results but should also form part of the pre-testing stage, and be integral in the planning and development

process. This includes applying research findings to the creative process before pre-testing is carried out.

Brand involvement should be considered an essential control in attitude and eye-movement research as familiarity and experience will most likely affect how a known brand is perceived, irrespective of the advertising in which it is contained.

As research in the field of advertising progresses, target groups are being re-evaluated and re-defined. Gradually the 'male housewife' is being acknowledged and in 2002 made up 15% of the total "housewife universe". Multi-person households are also on the increase [Bedwell (2002)].

With an ever-changing consumer market and advances in new technology, the advertising industry will have to work even harder at identifying the possible influences on consumer reactions, and finding reliable conventions on which to base the advertising planning process. In the words of Smit (2000), "Advertising is not something we all need or love", however, while it is present in the lives of consumers (and likely to become ever-more present), it is in the interests of the advertiser and the brand to continue to fund research in this field but to make this research focused, accurate and efficient, so that advertising can become not only successful in influencing the consumer, but also more economically effective.

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Appendices

Contents

Appendix 1

Tables and Scales

Marketing Pocket Handbook 2003

INTERNET ADVERTISING EXPENDITURE

	Current		Constant (1995) prices	
	£ million	% change yr/yr	£ million	% change yr/yr
1998	19.4	139.5	17.7	132.2
1999	51.0	162.9	45.9	158.8
2000	154.7	203.3	135.2	194.8
2001	165.7	7.1	142.5	5.2

Source (s): Internet Advertising Bureau *iabuk.net*, Pricewaterhouse Coopers.

WORLD WIDE WEB USAGE

	Dec '98	Jun '99	Dec '99	Jun '00	Dec '00	Dec '01
No. of UK adults (millions)	7.2	9.6	11.8	13.5	15.8	17.3

Note(s): Adults (aged 15+) in Britain using the WWW in the 4 week period prior to fieldwork.

Source(s): NOP Internet User Profile Survey, December 2001.

Pilot 1 & Pilot 2: Descriptive Statistics

Pilot 1

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LIKING	20	4.10	6.90	5.1925	.74521
TIME	20	37391.15	79066.55	54672.62	10215.93686
NO.FIX	20	7.80	14.50	11.3775	1.66160
Valid N (listwise)	20				

Pilot 2

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
LIKING	25	3.20	7.60	5.1120	1.11367
TIME	25	14475.40	38921.80	25628.02	6140.32315
NO.FIX	25	12.60	20.80	18.1600	1.97146
NO.FIXB	25	.20	4.80	1.8080	1.30955
NO.FIXP	21	.40	6.20	2.4857	1.84236
RECALL	25	.20	1.80	.9040	.49369
FRECALL	25	.00	.40	.1200	.16330
RECOG	25	2.40	5.00	3.9200	.86023
PREEXP	25	1.00	2.75	1.7913	.52806
RELEV	25	2.60	7.40	5.2240	1.45410
INFO	25	2.40	7.20	4.5680	1.35853
EYECATCH	25	3.20	8.40	6.0480	1.22920
INTEREST	25	2.40	8.00	4.8720	1.25284
UNDERST	25	3.60	8.60	6.4400	1.46969
BELIEV	25	3.20	8.00	5.3520	1.50031
ENJOY	25	2.20	8.00	4.9600	1.26491
TRY	25	1.80	7.40	4.4640	1.44997
USAGE1	25	1.40	3.20	2.3120	.57178
USAGE2	25	1.40	3.60	2.3680	.66753
USAGECH	25	-1.20	.80	.0560	.46733
APPEAL1	25	2.00	7.40	4.9520	1.47905
APPEAL2	25	3.40	7.80	5.3680	1.40793
APPEALCH	25	-1.00	2.00	.4160	.98475
VALUE1	25	3.20	7.80	5.3440	1.14967
VALUE2	25	3.00	7.80	5.4960	1.27426
VALUECH	25	-1.20	1.60	.1520	.73774
QUALITY1	25	3.40	7.80	5.9360	1.16579
QUALITY2	25	3.00	8.20	5.9280	1.38910
QUALITCH	25	-1.80	1.20	-.0080	.79263
NEEDS1	25	2.60	7.60	5.0960	1.48450
NEEDS2	25	2.20	8.00	5.0400	1.79072
NEEDSCH	25	-1.80	1.60	-.0560	.75392
Valid N (listwise)	21				

Informational and Transformational Ad Content Scale
Adapted from Puto and Wells (1984)

1. I learned something from this advert that I didn't know before about the brand.

2. I would like to have an experience like the one shown in the advert.

3. The advert did not seem to be speaking directly to me.*

4. There is nothing special about this brand that makes it different from the others.*

5. While I was looking at this advert, I thought how the brand might be useful to me.

6. The advert did not teach me what to look for when buying the product.*

7. This advert was very meaningful to me.

8. This advert was very uninformative.*

9. This brand fits my lifestyle very well.

10. I could really relate to this advert.

11. Using this brand makes me feel good about myself.

12. If they had to, the company could provide evidence to support the claims made in this advert.

13. It's hard to give a specific reason, but somehow this brand is not really for me.*

14. This advert did not really hold my attention.*

15. This advert reminded me of some important facts about the brand which I already knew.

16. If I could change my lifestyle, I would make it less like the people who use this brand.*

17. When I think of this brand, I think of this advert.

18. I felt as though I were right there in the advert, experiencing the same thing.

19. I can now accurately compare this brand with other competing brands on matters that are important to me.

20. This advert did not remind me of any experiences or feelings I've had in my own life.*

21. I would have less confidence in using this brand now than before I saw this advert.*

22. It is the kind of advert that keeps running through your head after you've seen it.

23. It's hard to put into words, but this advert leaves me with a good feeling about using this brand.

NOTE: Items that were reverse-marked are highlighted by *.
Items 1, 4, 6, 8, 12, 15, 19 & 21 are Informational Items. Those remaining are Transformational Items.

Informational and Transformational Average Scores Experiments 1, 2 & 3

	POSTER ADS (Experiment 1)		MAGAZINE ADS (Experiment 2)		DM ADS (Experiment 3)	
	I SCORE	T SCORE	I SCORE	T SCORE	I SCORE	T SCORE
1	2.15	1.83	2.53	1.47	2.79	2.04
2	2.55	1.85	2.92	2.28	3.35	2.47
3	2.52	2.41	2.94	2.88	2.89	1.96
4	2.90	3.00	3.37	1.95	3.64	3.31
5	2.66	2.17	2.58	1.55	3.97	4.21
6	2.62	2.58	3.34	2.92	3.73	3.88
7	2.56	2.11	3.11	2.41	3.39	2.88
8	3.14	3.15	2.41	3.02	2.14	1.96
9	2.80	2.36	2.69	2.59	2.97	2.91
10	2.99	2.49	3.73	3.42	3.41	3.52
11	3.02	2.84	3.15	2.83	3.89	3.24
12	3.08	2.62	3.39	2.83	3.62	2.96
13	2.48	2.07	3.43	2.23	3.48	3.20
14	2.59	2.12	3.03	2.96	3.07	2.66
15	2.29	1.76	2.84	2.40		
16	2.77	2.22	3.15	2.45		
17	3.13	2.71	3.35	2.96		
18	2.29	2.19	2.88	3.13		
19	2.83	2.51	3.08	2.87		
20	2.67	2.21	3.29	2.96		
21	2.88	2.76	3.34	3.07		
22	2.60	2.41	3.67	2.80		
23	2.11	1.94	2.77	2.16		
24	2.86	2.48	2.78	3.52		
25	2.98	2.52	3.35	2.29		
26	2.18	2.21	3.58	2.93		
27	2.38	2.12	3.62	2.65		
28	2.56	2.35	3.46	2.61		
29	2.32	2.29	3.23	3.02		
30	2.51	2.78	2.81	3.16		
31	1.73	1.95	3.14	2.84		
32	2.62	2.23	2.32	2.32		

I = Informational Average Score
T = Transformational Average Score

Purchase Decision Involvement (PDI) Scale
Mittal (1989)

For each specified product category:

1. In selecting from many types and brands of this product available in the market, would you say that:

   I would not care at all as to which one I buy

   I would care a great deal as to which one I buy

2. Do you think that the various types and brands of this product available in the market are all very alike or are all very different?

   They are alike

   They are different

3. How important would it be to you to make a right choice of this product?

   Not at all important

   Extremely important

4. In making your selection of this product, how concerned would you be about the outcome of your choice?

   Not at all concerned

   Very much concerned

Experiments 1, 2 & 3 Descriptive Statistics

Experiment/Condition 1

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
INFO	32	1.73	3.14	2.6168	.32876
TRANS	32	1.76	3.15	2.3521	.33984
LIKING	32	3.85	6.27	4.9948	.59845
RECALL	32	.00	.96	.6081	.24693
IMPACT	32	.21	.90	.5085	.18068
RELEV	32	11.75	22.17	16.4993	3.04246
INFORM	32	6.21	28.04	16.5013	5.28272
EYECATCH	32	9.88	23.54	16.4974	3.62432
INTEREST	32	9.83	22.38	16.5000	3.74040
UNDERST	32	8.77	27.69	16.4935	4.75104
BELEIV	32	6.75	24.40	16.4915	4.43104
ENJOY	32	5.98	22.25	16.4993	4.00144
TRY	32	8.92	21.85	16.4935	3.22827
ADRANK	32	9.20	22.49	16.4970	3.00878
APPEAL	32	9.63	21.31	16.5000	3.28405
VALUE	32	9.35	23.19	16.5000	3.54899
QUALITY	32	6.58	22.90	16.5000	4.39729
NEEDS	32	8.38	22.90	16.5000	3.80781
BRNDRANK	32	8.48	21.80	16.5000	3.57126
USAGE	32	1.67	3.46	2.4714	.45224
FAMILIAR	32	6.42	25.25	16.4896	4.85208
PREEXP	32	1.19	2.85	1.8356	.46190
Valid N (listwise)	32				

Experiment/Condition 2

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
INFO	32	2.32	3.73	3.1021	.36968
TRANS	32	1.47	3.52	2.6718	.47567
LIKING	32	2.68	6.36	4.5244	.80743
RECALL	32	.02	.94	.5400	.25496
IMPACT	32	.20	.88	.5163	.19058
RELEV	32	11.14	22.24	16.5000	2.63348
INFORM	32	9.08	24.82	16.5000	4.25835
EYECATCH	32	8.68	24.04	16.4950	4.06694
INTEREST	32	12.20	21.86	16.5000	2.50291
UNDERST	32	8.92	26.08	16.5000	4.69698
BELIEV	32	9.72	22.46	16.5000	3.36801
ENJOY	32	8.32	22.70	16.5000	3.72053
TRY	32	10.02	21.76	16.5000	3.13535
ADRANK	32	11.59	21.26	16.4994	2.44156
APPEAL	32	9.94	22.90	16.5000	3.11246
VALUE	32	11.22	23.10	16.5000	3.23717
QUALITY	32	10.18	22.88	16.4938	3.34627
NEEDS	32	11.64	22.60	16.5000	2.73800
BRNDRANK	32	11.63	21.85	16.4984	2.41302
USAGE	32	1.54	2.98	2.4006	.38573
FAMILIAR	32	10.76	28.92	16.5000	4.19047
PREEXP	32	1.10	2.60	1.7392	.45364
Valid N (listwise)	32				

Experiment/Condition 3

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
INFO	14	2.14	3.97	3.3095	.49455
TRANS	14	1.96	4.21	2.9429	.68802
LIKING	14	3.54	7.52	5.2649	1.21424
RECALL	14	.23	1.00	.6667	.24075
IMPACT	14	.15	.96	.5595	.25942
RELEV	14	2.02	7.85	5.1964	1.47714
INFORM	14	3.46	6.79	5.2619	.97415
EYECATCH	14	3.02	8.42	5.9717	1.82639
INTEREST	14	3.08	7.90	4.9836	1.34508
UNDERST	14	5.73	8.40	7.1176	.73196
BELIEV	14	4.06	6.71	5.5030	.75066
ENJOY	14	2.94	7.56	5.1533	1.43010
TRY	14	3.08	7.50	4.5104	1.19658
ADRANK	14	4.09	7.56	5.4622	.87993
APPEAL	14	4.04	7.63	5.5804	.86324
VALUE	14	5.00	6.73	5.7351	.50666
QUALITY	14	4.98	7.63	6.3899	.76583
NEEDS	14	4.65	7.67	5.8065	.78244
BRNDRANK	14	4.70	7.41	5.8780	.69458
USAGE	14	1.96	2.96	2.4226	.27632
FAMILIAR	14	4.90	8.13	6.7262	1.04192
PREEXP	14	1.04	1.28	1.1682	.07423
Valid N (listwise)	14				

Experiment 1 Factor Analysis Output for example adverts – Ad Variables

Ad 1

Rotated Component Matrix [a]

	Component		
	1	2	3
RELEV	1.304E-02	7.814E-02	.886
INFORM	.341	.164	.452
EYECATCH	.730	-.230	.285
INTEREST	.770	.279	-.268
UNDERST	-7.64E-02	.755	.377
BELIEV	.683	.221	.210
ENJOY	.251	.875	-4.00E-02
TRY	.597	.581	7.261E-02

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.918	36.474	36.474	2.918	36.474	36.474	2.134	26.681	26.681
2	1.275	15.934	52.408	1.275	15.934	52.408	1.885	23.563	50.244
3	1.162	14.527	66.935	1.162	14.527	66.935	1.335	16.691	66.935
4	.805	10.059	76.994						
5	.728	9.102	86.097						
6	.510	6.377	92.474						
7	.335	4.185	96.659						
8	.267	3.341	100.000						

Extraction Method: Principal Component Analysis.

Ad 2

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	.726	.238
INFORM	.166	.705
EYECATCH	.586	.184
INTEREST	.188	.821
UNDERST	.758	1.479E-02
BELIEV	7.812E-02	.681
ENJOY	.770	.189
TRY	.550	.588

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.354	41.922	41.922	3.354	41.922	41.922	2.408	30.099	30.099
2	1.161	14.511	56.433	1.161	14.511	56.433	2.107	26.334	56.433
3	.861	10.759	67.192						
4	.852	10.656	77.848						
5	.743	9.294	87.142						
6	.385	4.813	91.955						
7	.343	4.292	96.247						
8	.300	3.753	100.000						

Extraction Method: Principal Component Analysis.

Ad 3

Rotated Component Matrix[a]

	Component	
	1	2
RELEV	.313	.541
INFORM	.355	.412
EYECATCH	.751	9.637E-03
INTEREST	.769	-7.59E-02
UNDERST	-.177	.878
BELIEV	.666	.267
ENJOY	.696	.287
TRY	.672	.391

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.142	39.270	39.270	3.142	39.270	39.270	2.790	34.869	34.869
2	1.194	14.929	54.199	1.194	14.929	54.199	1.546	19.329	54.199
3	.915	11.441	65.639						
4	.873	10.910	76.549						
5	.602	7.526	84.075						
6	.543	6.783	90.858						
7	.427	5.332	96.189						
8	.305	3.811	100.000						

Extraction Method: Principal Component Analysis.

Ad 9

Rotated Component Matrix[a]

	Component	
	1	2
RELEV	.726	7.836E-02
INFORM	.664	.311
EYECATCH	.192	.753
INTEREST	.233	.561
UNDERST	.552	.276
BELIEV	.700	3.385E-02
ENJOY	8.152E-02	.796
TRY	.688	.337

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.117	38.957	38.957	3.117	38.957	38.957	2.333	29.164	29.164
2	1.026	12.830	51.787	1.026	12.830	51.787	1.810	22.622	51.787
3	.937	11.715	63.501						
4	.833	10.412	73.914						
5	.646	8.075	81.988						
6	.527	6.591	88.579						
7	.480	5.994	94.573						
8	.434	5.427	100.000						

Extraction Method: Principal Component Analysis.

Ad 10

Component Matrix [a]

	Component
	1
RELEV	.568
INFORM	.850
EYECATCH	.833
INTEREST	.757
UNDERST	.680
BELIEV	.643
ENJOY	.804
TRY	.773

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.432	55.397	55.397	4.432	55.397	55.397
2	.826	10.329	65.726			
3	.722	9.023	74.750			
4	.645	8.062	82.812			
5	.511	6.391	89.202			
6	.382	4.770	93.972			
7	.275	3.438	97.410			
8	.207	2.590	100.000			

Extraction Method: Principal Component Analysis.

Ad 11

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	1.905E-02	.496
INFORM	.321	.677
EYECATCH	.747	.346
INTEREST	.754	-.133
UNDERST	5.018E-02	.854
BELIEV	.722	.154
ENJOY	.774	.177
TRY	.842	.133

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.414	42.669	42.669	3.414	42.669	42.669	3.062	38.270	38.270
2	1.292	16.152	58.821	1.292	16.152	58.821	1.644	20.551	58.821
3	.984	12.297	71.118						
4	.670	8.370	79.488						
5	.548	6.845	86.333						
6	.484	6.055	92.389						
7	.339	4.241	96.630						
8	.270	3.370	100.000						

Extraction Method: Principal Component Analysis.

Ad 17

Rotated Component Matrix [a]

	Component		
	1	2	3
RELEV	.460	-5.27E-02	2.769E-02
INFORM	.166	.746	-5.78E-03
EYECATCH	.844	.123	-.187
INTEREST	.835	1.834E-03	.194
UNDERST	-.150	.840	.121
BELIEV	.283	.224	.860
ENJOY	.558	.346	-.546
TRY	.819	8.104E-02	.193

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 6 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.857	35.712	35.712	2.857	35.712	35.712	2.733	34.164	34.164
2	1.360	17.000	52.712	1.360	17.000	52.712	1.457	18.212	52.375
3	1.135	14.187	66.898	1.135	14.187	66.898	1.162	14.523	66.898
4	.898	11.224	78.122						
5	.730	9.121	87.243						
6	.398	4.975	92.218						
7	.347	4.332	96.550						
8	.276	3.450	100.000						

Extraction Method: Principal Component Analysis.

Ad 18

Rotated Component Matrix [a]

	Component		
	1	2	3
RELEV	7.541E-03	4.232E-02	.945
INFORM	.657	.413	-.103
EYECATCH	.825	2.600E-02	.180
INTEREST	.733	.127	.378
UNDERST	-.114	.855	-.145
BELIEV	.417	.639	.119
ENJOY	.790	.120	-.242
TRY	.333	.719	.302

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.251	40.642	40.642	3.251	40.642	40.642	2.572	32.151	32.151
2	1.270	15.878	56.520	1.270	15.878	56.520	1.861	23.261	55.412
3	1.175	14.685	71.204	1.175	14.685	71.204	1.263	15.793	71.204
4	.713	8.911	80.115						
5	.486	6.073	86.188						
6	.432	5.398	91.586						
7	.356	4.448	96.035						
8	.317	3.965	100.000						

Extraction Method: Principal Component Analysis.

Ad 19

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	.331	.686
INFORM	.278	.717
EYECATCH	.296	.667
INTEREST	.645	.393
UNDERST	-2.72E-02	.817
BELIEV	.736	.240
ENJOY	.762	6.588E-02
TRY	.762	.192

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.601	45.009	45.009	3.601	45.009	45.009	2.394	29.927	29.927
2	1.144	14.294	59.303	1.144	14.294	59.303	2.350	29.376	59.303
3	.745	9.310	68.613						
4	.705	8.813	77.427						
5	.553	6.911	84.337						
6	.518	6.478	90.815						
7	.379	4.739	95.554						
8	.356	4.446	100.000						

Extraction Method: Principal Component Analysis.

Ad 25

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	.656	.121
INFORM	9.524E-02	.861
EYECATCH	.673	-2.52E-02
INTEREST	.679	.295
UNDERST	.184	.759
BELIEV	.607	.201
ENJOY	.618	.368
TRY	.840	.107

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.336	41.700	41.700	3.336	41.700	41.700	2.841	35.519	35.519
2	1.113	13.917	55.617	1.113	13.917	55.617	1.608	20.098	55.617
3	.944	11.799	67.415						
4	.838	10.471	77.886						
5	.692	8.652	86.538						
6	.481	6.014	92.552						
7	.313	3.907	96.459						
8	.283	3.541	100.000						

Extraction Method: Principal Component Analysis.

Ad 26

Rotated Component Matrix [a]

	Component		
	1	2	3
RELEV	.415	-.274	.725
INFORM	.229	.749	.137
EYECATCH	.766	.292	9.993E-02
INTEREST	.788	9.042E-02	.165
UNDERST	.141	.797	5.050E-03
BELIEV	-2.74E-02	.393	.830
ENJOY	.802	.196	.102
TRY	.365	.526	.491

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.358	41.980	41.980	3.358	41.980	41.980	2.229	27.865	27.865
2	1.212	15.146	57.125	1.212	15.146	57.125	1.836	22.948	50.813
3	1.018	12.723	69.848	1.018	12.723	69.848	1.523	19.035	69.848
4	.728	9.106	78.954						
5	.557	6.963	85.917						
6	.477	5.965	91.882						
7	.347	4.332	96.214						
8	.303	3.786	100.000						

Extraction Method: Principal Component Analysis.

Ad 27

Component Matrix [a]

	Component
	1
RELEV	.535
INFORM	.704
EYECATCH	.739
INTEREST	.530
UNDERST	.357
BELIEV	.619
ENJOY	.855
TRY	.821

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.525	44.065	44.065	3.525	44.065	44.065
2	.975	12.193	56.258			
3	.903	11.286	67.544			
4	.841	10.510	78.054			
5	.730	9.122	87.176			
6	.523	6.534	93.710			
7	.309	3.867	97.577			
8	.194	2.423	100.000			

Extraction Method: Principal Component Analysis.

Experiment 1 Factor Analysis Output for example adverts – Brand Variables

Ad 1

Component Matrix[a]

	Component
	1
APPEAL	.639
VALUE	.450
QUALITY	.769
NEEDS	.850

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.924	48.098	48.098	1.924	48.098	48.098
2	.901	22.515	70.613			
3	.757	18.916	89.528			
4	.419	10.472	100.000			

Extraction Method: Principal Component Analysis.

Ad 2

Component Matrix[a]

	Component
	1
APPEAL	.685
VALUE	.717
QUALITY	.849
NEEDS	.923

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.556	63.911	63.911	2.556	63.911	63.911
2	.705	17.637	81.549			
3	.563	14.074	95.622			
4	.175	4.378	100.000			

Extraction Method: Principal Component Analysis.

Ad 3

Component Matrix[a]

	Component
	1
APPEAL	.874
VALUE	.573
QUALITY	.759
NEEDS	.868

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.422	60.540	60.540	2.422	60.540	60.540
2	.871	21.772	82.312			
3	.436	10.911	93.223			
4	.271	6.777	100.000			

Extraction Method: Principal Component Analysis.

Ad 9

Component Matrix[a]

	Component
	1
APPEAL	.789
VALUE	.556
QUALITY	.871
NEEDS	.890

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.482	62.059	62.059	2.482	62.059	62.059
2	.827	20.669	82.728			
3	.412	10.311	93.039			
4	.278	6.961	100.000			

Extraction Method: Principal Component Analysis.

Ad 10

Component Matrix[a]

	Component
	1
APPEAL	.884
VALUE	.687
QUALITY	.820
NEEDS	.896

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.728	68.209	68.209	2.728	68.209	68.209
2	.671	16.769	84.978			
3	.351	8.768	93.746			
4	.250	6.254	100.000			

Extraction Method: Principal Component Analysis.

Ad 11

Component Matrix[a]

	Component
	1
APPEAL	.794
VALUE	.809
QUALITY	.781
NEEDS	.854

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.625	65.624	65.624	2.625	65.624	65.624
2	.541	13.532	79.156			
3	.465	11.616	90.772			
4	.369	9.228	100.000			

Extraction Method: Principal Component Analysis.

Ad 17

Component Matrix[a]

	Component
	1
APPEAL	.789
VALUE	.743
QUALITY	.768
NEEDS	.863

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.510	62.744	62.744	2.510	62.744	62.744
2	.664	16.590	79.334			
3	.548	13.688	93.022			
4	.279	6.978	100.000			

Extraction Method: Principal Component Analysis.

Ad 18

Component Matrix[a]

	Component
	1
APPEAL	.755
VALUE	.687
QUALITY	.732
NEEDS	.855

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.307	57.680	57.680	2.307	57.680	57.680
2	.706	17.638	75.318			
3	.593	14.817	90.134			
4	.395	9.866	100.000			

Extraction Method: Principal Component Analysis.

Ad 19

Component Matrix[a]

	Component
	1
APPEAL	.865
VALUE	.827
QUALITY	.852
NEEDS	.865

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.905	72.622	72.622	2.905	72.622	72.622
2	.477	11.933	84.556			
3	.354	8.847	93.403			
4	.264	6.597	100.000			

Extraction Method: Principal Component Analysis.

Ad 25

Rotated Component Matrix[a]

	Component	
	1	2
APPEAL	.819	-.202
VALUE	.059	.948
QUALITY	.773	.456
NEEDS	.823	.221

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

Componen	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.140	53.506	53.506	2.140	53.506	53.506	1.949	48.726	48.726
2	1.005	25.127	78.633	1.005	25.127	78.633	1.196	29.907	78.633
3	.555	13.884	92.517						
4	.299	7.483	100.000						

Extraction Method: Principal Component Analysis.

Ad 26

Component Matrix[a]

	Component
	1
APPEAL	.744
VALUE	.519
QUALITY	.829
NEEDS	.889

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.300	57.507	57.507	2.300	57.507	57.507
2	.865	21.616	79.123			
3	.527	13.166	92.289			
4	.308	7.711	100.000			

Extraction Method: Principal Component Analysis.

Ad 27

Component Matrix[a]

	Component
	1
APPEAL	.723
VALUE	.508
QUALITY	.857
NEEDS	.847

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.234	55.848	55.848	2.234	55.848	55.848
2	.925	23.125	78.972			
3	.511	12.786	91.758			
4	.330	8.242	100.000			

Extraction Method: Principal Component Analysis.

Experiment 2 Factor Analysis Output for example adverts – Ad Variables

Ad 1

Rotated Component Matrix[a]

	Component		
	1	2	3
RELEV	.608	.511	-.002
INFORM	.142	.785	.291
EYECATCH	.814	-.027	-.011
INTEREST	.712	.441	-.120
UNDERST	9.073E-02	9.045E-02	.963
BELIEV	.138	.795	-.032
ENJOY	.849	.149	.303
TRY	.672	.365	.330

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.764	47.044	47.044	3.764	47.044	47.044	2.760	34.497	34.497
2	1.089	13.614	60.659	1.089	13.614	60.659	1.869	23.360	57.857
3	1.004	12.554	73.212	1.004	12.554	73.212	1.228	15.355	73.212
4	.734	9.178	82.390						
5	.490	6.124	88.514						
6	.458	5.725	94.239						
7	.313	3.910	98.149						
8	.148	1.851	100.000						

Extraction Method: Principal Component Analysis.

Ad 2

Rotated Component Matrix[a]

	Component	
	1	2
RELEV	.628	.493
INFORM	.661	.142
EYECATCH	.194	.704
INTEREST	-.015	.733
UNDERST	.622	-.046
BELEIV	.788	.189
ENJOY	.280	.769
TRY	.673	.337

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.330	41.630	41.630	3.330	41.630	41.630	2.409	30.114	30.114
2	1.117	13.961	55.591	1.117	13.961	55.591	2.038	25.477	55.591
3	.985	12.318	67.909						
4	.857	10.706	78.615						
5	.639	7.993	86.608						
6	.413	5.157	91.764						
7	.365	4.560	96.325						
8	.294	3.675	100.000						

Extraction Method: Principal Component Analysis.

Ad 3

Component Matrix [a]

	Component
	1
RELEV	.717
INFORM	.465
EYECATCH	.851
INTEREST	.807
UNDERST	.601
BELEIV	.665
ENJOY	.727
TRY	.869

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.194	52.424	52.424	4.194	52.424	52.424
2	.964	12.052	64.477			
3	.837	10.467	74.944			
4	.718	8.976	83.920			
5	.516	6.448	90.368			
6	.310	3.872	94.240			
7	.242	3.027	97.267			
8	.219	2.733	100.000			

Extraction Method: Principal Component Analysis.

Ad 9

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	-.029	.800
INFORM	.542	.143
EYECATCH	.179	.752
INTEREST	.514	.315
UNDERST	.720	-.188
BELEIV	.569	.117
ENJOY	.644	.380
TRY	.477	.585

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.782	34.769	34.769	2.782	34.769	34.769	2.075	25.936	25.936
2	1.154	14.425	49.194	1.154	14.425	49.194	1.861	23.258	49.194
3	.972	12.152	61.346						
4	.890	11.127	72.474						
5	.809	10.111	82.585						
6	.604	7.550	90.134						
7	.510	6.376	96.510						
8	.279	3.490	100.000						

Extraction Method: Principal Component Analysis.

Ad 10

Rotated Component Matrix[a]

	Component	
	1	2
RELEV	6.525E-02	.625
INFORM	4.342E-02	.798
EYECATCH	.493	.537
INTEREST	.774	.236
UNDERST	.181	.697
BELEIV	.627	4.359E-02
ENJOY	.784	7.126E-02
TRY	.877	.171

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.238	40.469	40.469	3.238	40.469	40.469	2.659	33.237	33.237
2	1.315	16.438	56.907	1.315	16.438	56.907	1.894	23.669	56.907
3	.833	10.418	67.325						
4	.765	9.558	76.882						
5	.690	8.625	85.508						
6	.558	6.970	92.478						
7	.358	4.479	96.956						
8	.243	3.044	100.000						

Extraction Method: Principal Component Analysis.

Ad 11

Rotated Component Matrix[a]

	Component		
	1	2	3
RELEV	.475	.212	7.594E-02
INFORM	.833	.182	-.013
EYECATCH	1.950E-02	8.290E-02	.762
INTEREST	.503	.625	-.396
UNDERST	.348	.217	.699
BELEIV	.784	-.085	.300
ENJOY	-.075	.788	.304
TRY	.313	.765	.123

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.788	34.844	34.844	2.788	34.844	34.844	2.010	25.130	25.130
2	1.286	16.076	50.921	1.286	16.076	50.921	1.737	21.710	46.840
3	1.104	13.796	64.716	1.104	13.796	64.716	1.430	17.876	64.716
4	.978	12.224	76.941						
5	.693	8.667	85.608						
6	.461	5.766	91.374						
7	.427	5.335	96.709						
8	.263	3.291	100.000						

Extraction Method: Principal Component Analysis.

Ad 17

Component Matrix [a]

	Component
	1
RELEV	.782
INFORM	.640
EYECATCH	.697
INTEREST	.676
UNDERST	.574
BELEIV	.457
ENJOY	.770
TRY	.869

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.850	48.120	48.120	3.850	48.120	48.120
2	.993	12.418	60.538			
3	.889	11.118	71.656			
4	.751	9.392	81.048			
5	.535	6.682	87.730			
6	.467	5.835	93.566			
7	.320	3.997	97.563			
8	.195	2.437	100.000			

Extraction Method: Principal Component Analysis.

Ad 18

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	.801	-.189
INFORM	7.148E-02	.950
EYECATCH	.730	.145
INTEREST	.806	.161
UNDERST	.598	.429
BELEIV	.558	.205
ENJOY	.693	.390
TRY	.812	.174

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.977	49.714	49.714	3.977	49.714	49.714	3.638	45.481	45.481
2	1.054	13.177	62.891	1.054	13.177	62.891	1.393	17.410	62.891
3	.859	10.735	73.626						
4	.659	8.235	81.861						
5	.513	6.413	88.274						
6	.433	5.407	93.680						
7	.301	3.768	97.448						
8	.204	2.552	100.000						

Extraction Method: Principal Component Analysis.

Ad 19

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	.753	-.002
INFORM	-.023	.722
EYECATCH	.594	.330
INTEREST	.699	-.090
UNDERST	6.613E-02	.858
BELEIV	.731	.259
ENJOY	.499	-.037
TRY	.755	1.450E-02

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.854	35.680	35.680	2.854	35.680	35.680	2.766	34.569	34.569
2	1.354	16.929	52.609	1.354	16.929	52.609	1.443	18.041	52.609
3	.981	12.266	64.876						
4	.861	10.759	75.635						
5	.681	8.516	84.151						
6	.536	6.704	90.855						
7	.404	5.049	95.904						
8	.328	4.096	100.000						

Extraction Method: Principal Component Analysis.

Ad 25

Rotated Component Matrix [a]

	Component		
	1	2	3
RELEV	.329	.612	-.025
INFORM	.628	.153	.550
EYECATCH	-.063	.818	2.745E-02
INTEREST	.647	.491	.196
UNDERST	1.114E-02	4.808E-02	.895
BELEIV	.862	-.121	3.320E-02
ENJOY	.150	.706	.445
TRY	.735	.467	-.050

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 5 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.328	41.603	41.603	3.328	41.603	41.603	2.232	27.898	27.898
2	1.227	15.333	56.937	1.227	15.333	56.937	2.042	25.519	53.418
3	1.063	13.294	70.230	1.063	13.294	70.230	1.345	16.812	70.230
4	.727	9.082	79.312						
5	.681	8.513	87.825						
6	.437	5.462	93.287						
7	.351	4.389	97.676						
8	.186	2.324	100.000						

Extraction Method: Principal Component Analysis.

Ad 26

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	.456	.601
INFORM	.744	.130
EYECATCH	6.684E-02	.856
INTEREST	.629	.382
UNDERST	.116	.617
BELEIV	.815	6.118E-02
ENJOY	.429	.628
TRY	.729	.330

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.664	45.805	45.805	3.664	45.805	45.805	2.554	31.925	31.925
2	1.034	12.924	58.729	1.034	12.924	58.729	2.144	26.804	58.729
3	.977	12.214	70.943						
4	.618	7.722	78.665						
5	.572	7.156	85.821						
6	.445	5.563	91.384						
7	.409	5.113	96.497						
8	.280	3.503	100.000						

Extraction Method: Principal Component Analysis.

Ad 27

Rotated Component Matrix [a]

	Component		
	1	2	3
RELEV	.225	.813	-.217
INFORM	.250	-.089	.627
EYECATCH	.841	.134	-.061
INTEREST	.807	6.041E-02	.133
UNDERST	-.025	.116	.689
BELEIV	6.876E-02	.747	.398
ENJOY	.823	7.780E-02	6.327E-02
TRY	.613	.143	.204

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.813	35.164	35.164	2.813	35.164	35.164	2.531	31.639	31.639
2	1.127	14.086	49.250	1.127	14.086	49.250	1.290	16.119	47.758
3	1.021	12.765	62.015	1.021	12.765	62.015	1.141	14.257	62.015
4	.950	11.877	73.892						
5	.799	9.982	83.873						
6	.536	6.695	90.568						
7	.472	5.905	96.473						
8	.282	3.527	100.000						

Extraction Method: Principal Component Analysis.

Experiment 2 Factor Analysis Output for example adverts – Brand Variables

Ad 1

Component Matrix[a]

	Component
	1
APPEAL	.659
VALUE	.464
QUALITY	.781
NEEDS	.769

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.850	46.262	46.262	1.850	46.262	46.262
2	.956	23.900	70.163			
3	.661	16.526	86.689			
4	.532	13.311	100.000			

Extraction Method: Principal Component Analysis.

Ad 2

Component Matrix[a]

	Component
	1
APPEAL	.765
VALUE	.494
QUALITY	.807
NEEDS	.899

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.290	57.239	57.239	2.290	57.239	57.239
2	.996	24.910	82.149			
3	.448	11.210	93.359			
4	.266	6.641	100.000			

Extraction Method: Principal Component Analysis.

Ad 3

Component Matrix[a]

	Component
	1
APPEAL	.832
VALUE	.698
QUALITY	.807
NEEDS	.894

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.631	65.764	65.764	2.631	65.764	65.764
2	.667	16.683	82.447			
3	.421	10.534	92.980			
4	.281	7.020	100.000			

Extraction Method: Principal Component Analysis.

Ad 9

Component Matrix[a]

	Component
	1
APPEAL	.786
VALUE	.560
QUALITY	.739
NEEDS	.767

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.065	51.615	51.615	2.065	51.615	51.615
2	.897	22.435	74.050			
3	.621	15.520	89.570			
4	.417	10.430	100.000			

Extraction Method: Principal Component Analysis.

Ad 10

Component Matrix[a]

	Component
	1
APPEAL	.803
VALUE	.803
QUALITY	.631
NEEDS	.787

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.307	57.671	57.671	2.307	57.671	57.671
2	.789	19.715	77.385			
3	.487	12.165	89.551			
4	.418	10.449	100.000			

Extraction Method: Principal Component Analysis.

Ad 11

Component Matrix[a]

	Component
	1
APPEAL	.684
VALUE	.679
QUALITY	.749
NEEDS	.802

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.134	53.340	53.340	2.134	53.340	53.340
2	.773	19.320	72.659			
3	.591	14.774	87.433			
4	.503	12.567	100.000			

Extraction Method: Principal Component Analysis.

Ad 17

Component Matrix[a]

	Component
	1
APPEAL	.670
VALUE	.717
QUALITY	.721
NEEDS	.834

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.178	54.456	54.456	2.178	54.456	54.456
2	.818	20.451	74.907			
3	.614	15.339	90.247			
4	.390	9.753	100.000			

Extraction Method: Principal Component Analysis.

Ad 18

Component Matrix[a]

	Component
	1
APPEAL	.690
VALUE	.570
QUALITY	.639
NEEDS	.776

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.812	45.305	45.305	1.812	45.305	45.305
2	.973	24.327	69.632			
3	.723	18.068	87.700			
4	.492	12.300	100.000			

Extraction Method: Principal Component Analysis.

Ad 19

Component Matrix[a]

	Component
	1
APPEAL	.828
VALUE	.448
QUALITY	.687
NEEDS	.864

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.106	52.640	52.640	2.106	52.640	52.640
2	.885	22.128	74.768			
3	.682	17.038	91.806			
4	.328	8.194	100.000			

Extraction Method: Principal Component Analysis.

Ad 25

Component Matrix[a]

	Component
	1
APPEAL	.763
VALUE	.609
QUALITY	.792
NEEDS	.713

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.088	52.202	52.202	2.088	52.202	52.202
2	.775	19.372	71.574			
3	.653	16.314	87.887			
4	.485	12.113	100.000			

Extraction Method: Principal Component Analysis.

Ad 26

Component Matrix[a]

	Component
	1
APPEAL	.772
VALUE	.664
QUALITY	.739
NEEDS	.863

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.328	58.203	58.203	2.328	58.203	58.203
2	.842	21.062	79.265			
3	.491	12.271	91.536			
4	.339	8.464	100.000			

Extraction Method: Principal Component Analysis.

Ad 27

Component Matrix[a]

	Component
	1
APPEAL	.643
VALUE	.691
QUALITY	.723
NEEDS	.794

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.044	51.101	51.101	2.044	51.101	51.101
2	.825	20.625	71.726			
3	.635	15.880	87.606			
4	.496	12.394	100.000			

Extraction Method: Principal Component Analysis.

Experiment 3 Factor Analysis Output for example adverts – Ad Variables

Ad 1

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	.486	.489
INFORM	.282	.726
EYECATCH	1.686E-02	.890
INTEREST	.641	.582
UNDERST	.436	.482
BELEIV	.891	1.474E-02
ENJOY	.709	.445
TRY	.760	.228

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.142	51.779	51.779	4.142	51.779	51.779	2.792	34.895	34.895
2	1.030	12.877	64.656	1.030	12.877	64.656	2.381	29.761	64.656
3	.921	11.507	76.163						
4	.653	8.160	84.322						
5	.431	5.387	89.710						
6	.366	4.571	94.281						
7	.258	3.227	97.508						
8	.199	2.492	100.000						

Extraction Method: Principal Component Analysis.

Ad 2

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	.405	.654
INFORM	.255	.760
EYECATCH	.902	.105
INTEREST	.830	.351
UNDERST	-.032	.826
BELEIV	.164	.618
ENJOY	.860	.183
TRY	.719	.128

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.863	48.288	48.288	3.863	48.288	48.288	3.014	37.679	37.679
2	1.405	17.562	65.850	1.405	17.562	65.850	2.254	28.171	65.850
3	.928	11.601	77.451						
4	.684	8.552	86.003						
5	.444	5.556	91.559						
6	.288	3.605	95.164						
7	.238	2.975	98.138						
8	.149	1.862	100.000						

Extraction Method: Principal Component Analysis.

Ad 3

Rotated Component Matrix[a]

	Component	
	1	2
RELEV	-.028	.821
INFORM	.846	.118
EYECATCH	.579	-.024
INTEREST	.473	.674
UNDERST	.722	-.052
BELEIV	.499	.361
ENJOY	.621	.628
TRY	-.107	.863

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.253	40.656	40.656	3.253	40.656	40.656	2.445	30.561	30.561
2	1.607	20.086	60.742	1.607	20.086	60.742	2.415	30.182	60.742
3	.986	12.327	73.070						
4	.759	9.482	82.552						
5	.428	5.351	87.903						
6	.397	4.966	92.869						
7	.343	4.287	97.155						
8	.228	2.845	100.000						

Extraction Method: Principal Component Analysis.

Ad 5

Component Matrix [a]

	Component
	1
RELEV	.786
INFORM	.714
EYECATCH	.825
INTEREST	.874
UNDERST	.672
BELEIV	.637
ENJOY	.806
TRY	.878

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.848	60.604	60.604	4.848	60.604	60.604
2	.758	9.478	70.082			
3	.712	8.904	78.986			
4	.581	7.265	86.251			
5	.504	6.295	92.546			
6	.265	3.309	95.854			
7	.196	2.446	98.300			
8	.136	1.700	100.000			

Extraction Method: Principal Component Analysis.

Ad 6

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	.713	.327
INFORM	.300	.864
EYECATCH	.899	.122
INTEREST	.792	.450
UNDERST	.441	.455
BELEIV	.155	.930
ENJOY	.804	.336
TRY	.861	.175

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.814	60.175	60.175	4.814	60.175	60.175	3.639	45.484	45.484
2	1.111	13.892	74.068	1.111	13.892	74.068	2.287	28.584	74.068
3	.744	9.301	83.369						
4	.650	8.125	91.494						
5	.266	3.320	94.814						
6	.180	2.250	97.064						
7	.142	1.781	98.844						
8	9.245E-02	1.156	100.000						

Extraction Method: Principal Component Analysis.

Ad7

Component Matrix [a]

	Component
	1
RELEV	.864
INFORM	.713
EYECATCH	.846
INTEREST	.874
UNDERST	.582
BELEIV	.834
ENJOY	.891
TRY	.873

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.324	66.556	66.556	5.324	66.556	66.556
2	.826	10.331	76.886			
3	.572	7.153	84.040			
4	.406	5.073	89.113			
5	.332	4.154	93.267			
6	.232	2.898	96.165			
7	.187	2.333	98.497			
8	.120	1.503	100.000			

Extraction Method: Principal Component Analysis.

Ad 11

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	.404	.546
INFORM	.476	.539
EYECATCH	.914	.105
INTEREST	.700	.365
UNDERST	-.040	.911
BELEIV	.320	.793
ENJOY	.910	.160
TRY	.675	.211

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.081	51.015	51.015	4.081	51.015	51.015	3.103	38.788	38.788
2	1.284	16.045	67.060	1.284	16.045	67.060	2.262	28.272	67.060
3	.804	10.055	77.115						
4	.618	7.719	84.834						
5	.514	6.429	91.263						
6	.327	4.091	95.353						
7	.280	3.501	98.854						
8	9.165E-02	1.146	100.000						

Extraction Method: Principal Component Analysis.

Ad 12

Component Matrix [a]

	Component
	1
RELEV	.551
INFORM	.733
EYECATCH	.833
INTEREST	.924
UNDERST	.799
BELEIV	.733
ENJOY	.879
TRY	.678

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.798	59.969	59.969	4.798	59.969	59.969
2	.989	12.363	72.333			
3	.783	9.784	82.117			
4	.547	6.844	88.961			
5	.358	4.479	93.440			
6	.278	3.478	96.918			
7	.142	1.781	98.699			
8	.104	1.301	100.000			

Extraction Method: Principal Component Analysis.

Ad 13

Rotated Component Matrix [a]

	Component	
	1	2
RELEV	6.108E-02	.692
INFORM	.636	.532
EYECATCH	.791	.125
INTEREST	.773	.364
UNDERST	.910	-.005
BELEIV	.454	.710
ENJOY	.712	.495
TRY	.147	.896

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.433	55.410	55.410	4.433	55.410	55.410	3.194	39.920	39.920
2	1.223	15.292	70.702	1.223	15.292	70.702	2.463	30.782	70.702
3	.964	12.054	82.756						
4	.452	5.653	88.409						
5	.315	3.933	92.343						
6	.238	2.978	95.320						
7	.216	2.700	98.020						
8	.158	1.980	100.000						

Extraction Method: Principal Component Analysis.

Experiment 3 Factor Analysis Output for example adverts – Brand Variables

Ad 1

Component Matrix[a]

	Component
	1
APPEAL	.776
VALUE	.866
QUALITY	.853
NEEDS	.885

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.863	71.587	71.587	2.863	71.587	71.587
2	.524	13.111	84.698			
3	.339	8.486	93.184			
4	.273	6.816	100.000			

Extraction Method: Principal Component Analysis.

Ad 2

Component Matrix[a]

	Component
	1
APPEAL	.870
VALUE	.831
QUALITY	.883
NEEDS	.759

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.804	70.094	70.094	2.804	70.094	70.094
2	.586	14.644	84.738			
3	.410	10.239	94.978			
4	.201	5.022	100.000			

Extraction Method: Principal Component Analysis.

Ad 3

Component Matrix[a]

	Component
	1
APPEAL	.836
VALUE	.869
QUALITY	.941
NEEDS	.870

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.096	77.408	77.408	3.096	77.408	77.408
2	.515	12.879	90.287			
3	.288	7.195	97.482			
4	.101	2.518	100.000			

Extraction Method: Principal Component Analysis.

Ad 5

Component Matrix[a]

	Component
	1
APPEAL	.952
VALUE	.842
QUALITY	.924
NEEDS	.955

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.381	84.534	84.534	3.381	84.534	84.534
2	.382	9.560	94.094			
3	.163	4.073	98.167			
4	.073	1.833	100.000			

Extraction Method: Principal Component Analysis.

Ad 6

Component Matrix[a]

	Component
	1
APPEAL	.918
VALUE	.811
QUALITY	.892
NEEDS	.904

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.112	77.811	77.811	3.112	77.811	77.811
2	.448	11.197	89.008			
3	.280	7.010	96.018			
4	.159	3.982	100.000			

Extraction Method: Principal Component Analysis.

Ad 7

Component Matrix[a]

	Component
	1
APPEAL	.926
VALUE	.898
QUALITY	.926
NEEDS	.867

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.273	81.818	81.818	3.273	81.818	81.818
2	.351	8.765	90.583			
3	.196	4.900	95.483			
4	.181	4.517	100.000			

Extraction Method: Principal Component Analysis.

Ad 11

Component Matrix[a]

	Component
	1
APPEAL	.880
VALUE	.906
QUALITY	.838
NEEDS	.861

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.039	75.986	75.986	3.039	75.986	75.986
2	.509	12.734	88.720			
3	.245	6.126	94.845			
4	.206	5.155	100.000			

Extraction Method: Principal Component Analysis.

Ad 12

Component Matrix[a]

	Component
	1
APPEAL	.929
VALUE	.880
QUALITY	.933
NEEDS	.927

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.367	84.179	84.179	3.367	84.179	84.179
2	.363	9.064	93.242			
3	.182	4.555	97.797			
4	.088	2.203	100.000			

Extraction Method: Principal Component Analysis.

Ad 13

Component Matrix[a]

	Component
	1
APPEAL	.934
VALUE	.861
QUALITY	.909
NEEDS	.918

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.281	82.027	82.027	3.281	82.027	82.027
2	.348	8.689	90.717			
3	.233	5.815	96.532			
4	.139	3.468	100.000			

Extraction Method: Principal Component Analysis.

Experiment 1 Cronbach's Alpha for New Factors (example adverts)
Positive Feelings & Intentions Factor

Case Processing Summary

		N	%
Cases	Valid	48	100.0
	Excluded [a]	0	.0
	Total	48	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.713	2

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.733	2

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.706	2

Ad 9

Reliability Statistics

Cronbach's Alpha	N of Items
.469	2

Ad 10

Reliability Statistics

Cronbach's Alpha	N of Items
.721	2

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.775	2

Ad 17

Reliability Statistics

Cronbach's Alpha	N of Items
.571	2

Ad 18

Reliability Statistics

Cronbach's Alpha	N of Items
.475	2

Ad 19

Reliability Statistics

Cronbach's Alpha	N of Items
.663	2

Ad 25

Reliability Statistics

Cronbach's Alpha	N of Items
.596	2

Ad 26

Reliability Statistics

Cronbach's Alpha	N of Items
.664	2

Ad 27

Reliability Statistics

Cronbach's Alpha	N of Items
.854	2

Communication Factor

Case Processing Summary

		N	%
Cases	Valid	48	100.0
	Excluded [a]	0	.0
	Total	48	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.324	2

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.401	2

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.272	2

Ad 9

Reliability Statistics

Cronbach's Alpha	N of Items
.526	2

Ad 10

Reliability Statistics

Cronbach's Alpha	N of Items
.749	2

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.602	2

Ad 17

Reliability Statistics

Cronbach's Alpha	N of Items
.485	2

Ad 18

Reliability Statistics

Cronbach's Alpha	N of Items
.314	2

Ad19

Reliability Statistics

Cronbach's Alpha	N of Items
.604	2

Ad 25

Reliability Statistics

Cronbach's Alpha	N of Items
.595	2

Ad 26

Reliability Statistics

Cronbach's Alpha	N of Items
.578	2

Ad27

Reliability Statistics

Cronbach's Alpha	N of Items
.391	2

Visual Impact Factor

Case Processing Summary

		N	%
Cases	Valid	48	100.0
	Excluded [a]	0	.0
	Total	48	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.565	2

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.489	2

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.601	2

Ad 9

Reliability Statistics

Cronbach's Alpha	N of Items
.450	2

Ad 10

Reliability Statistics

Cronbach's Alpha	N of Items
.773	2

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.574	2

Ad 17

Reliability Statistics

Cronbach's Alpha	N of Items
.782	2

Ad 18

Reliability Statistics

Cronbach's Alpha	N of Items
.718	2

Ad 19

Reliability Statistics

Cronbach's Alpha	N of Items
.631	2

Ad 25

Reliability Statistics

Cronbach's Alpha	N of Items
.597	2

Ad 26

Reliability Statistics

Cronbach's Alpha	N of Items
.683	2

Ad 27

Reliability Statistics

Cronbach's Alpha	N of Items
.589	2

Complete Brand Judgement Factor

Case Processing Summary

		N	%
Cases	Valid	48	100.0
	Excluded [a]	0	.0
	Total	48	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.619	4

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.803	4

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.769	4

Ad 9

Reliability Statistics

Cronbach's Alpha	N of Items
.779	4

Ad 10

Reliability Statistics

Cronbach's Alpha	N of Items
.830	4

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.824	4

Ad 17

Reliability Statistics

Cronbach's Alpha	N of Items
.791	4

Ad 18

Reliability Statistics

Cronbach's Alpha	N of Items
.753	4

Ad 19

Reliability Statistics

Cronbach's Alpha	N of Items
.874	4

Ad 25

Reliability Statistics

Cronbach's Alpha	N of Items
.680	4

Ad 26

Reliability Statistics

Cronbach's Alpha	N of Items
.741	4

Ad 27

Reliability Statistics

Cronbach's Alpha	N of Items
.723	4

Experiment 2 Cronbach's Alpha for New Factors (example adverts)
Positive Feelings & Intentions Factor

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded [a]	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.804	2

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.457	2

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.725	2

Ad 9

Reliability Statistics

Cronbach's Alpha	N of Items
.581	2

Ad 10

Reliability Statistics

Cronbach's Alpha	N of Items
.762	2

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.589	2

Ad 17

Reliability Statistics

Cronbach's Alpha	N of Items
.838	2

Ad 18

Reliability Statistics

Cronbach's Alpha	N of Items
.735	2

Ad 19

Reliability Statistics

Cronbach's Alpha	N of Items
.433	2

Ad 25

Reliability Statistics

Cronbach's Alpha	N of Items
.584	2

Ad 26

Reliability Statistics

Cronbach's Alpha	N of Items
.620	2

Ad 27

Reliability Statistics

Cronbach's Alpha	N of Items
.597	2

Communication Factor

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded [a]	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.466	2

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.464	2

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.492	2

Ad 9

Reliability Statistics

Cronbach's Alpha	N of Items
.341	2

Ad 10

Reliability Statistics

Cronbach's Alpha	N of Items
.569	2

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.488	2

Ad 17

Reliability Statistics

Cronbach's Alpha	N of Items
.638	2

Ad 18

Reliability Statistics

Cronbach's Alpha	N of Items
.515	2

Ad 19

Reliability Statistics

Cronbach's Alpha	N of Items
.469	2

Ad 25

Reliability Statistics

Cronbach's Alpha	N of Items
.504	2

Ad 26

Reliability Statistics

Cronbach's Alpha	N of Items
.400	2

Ad 27

Reliability Statistics

Cronbach's Alpha	N of Items
.109	2

Visual Impact Factor

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded [a]	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.590	2

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.376	2

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.760	2

Ad 9

Reliability Statistics

Cronbach's Alpha	N of Items
.170	2

Ad 10

Reliability Statistics

Cronbach's Alpha	N of Items
.566	2

Ad 11

Reliability Statistics

Cronbach's Alpha[a]	N of Items
-.115	2

a. The value is negative due to a negative average covariance among items. This violates reliability model assumptions. You may want to check item codings.

Ad 17

Reliability Statistics

Cronbach's Alpha	N of Items
.441	2

Ad 18

Reliability Statistics

Cronbach's Alpha	N of Items
.657	2

Ad 19

Reliability Statistics

Cronbach's Alpha	N of Items
.489	2

Ad 25

Reliability Statistics

Cronbach's Alpha	N of Items
.431	2

Ad 26

Reliability Statistics

Cronbach's Alpha	N of Items
.547	2

Ad 27

Reliability Statistics

Cronbach's Alpha	N of Items
.747	2

Complete Brand Judgement Factor

Case Processing Summary

		N	%
Cases	Valid	50	100.0
	Excluded [a]	0	.0
	Total	50	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.599	4

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.731	4

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.826	4

Ad 9

Reliability Statistics

Cronbach's Alpha	N of Items
.686	4

Ad 10

Reliability Statistics

Cronbach's Alpha	N of Items
.751	4

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.705	4

Ad 17

Reliability Statistics

Cronbach's Alpha	N of Items
.718	4

Ad 18

Reliability Statistics

Cronbach's Alpha	N of Items
.591	4

Ad 19

Reliability Statistics

Cronbach's Alpha	N of Items
.684	4

Ad 25

Reliability Statistics

Cronbach's Alpha	N of Items
.686	4

Ad 26

Reliability Statistics

Cronbach's Alpha	N of Items
.757	4

Ad 27

Reliability Statistics

Cronbach's Alpha	N of Items
.675	4

Experiment 3 Cronbach's Alpha for New Factors (example adverts)
Positive Feelings & Intentions Factor

Case Processing Summary

		N	%
Cases	Valid	48	100.0
	Excluded[a]	0	.0
	Total	48	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.819	2

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.690	2

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.628	2

Ad 5

Reliability Statistics

Cronbach's Alpha	N of Items
.746	2

Ad 6

Reliability Statistics

Cronbach's Alpha	N of Items
.762	2

Ad 7

Reliability Statistics

Cronbach's Alpha	N of Items
.847	2

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.694	2

Ad 12

Reliability Statistics

Cronbach's Alpha	N of Items
.710	2

Ad 13

Reliability Statistics

Cronbach's Alpha	N of Items
.712	2

Communication Factor

Case Processing Summary

		N	%
Cases	Valid	48	100.0
	Excluded [a]	0	.0
	Total	48	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.615	2

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.575	2

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.677	2

Ad 5

Reliability Statistics

Cronbach's Alpha	N of Items
.448	2

Ad 6

Reliability Statistics

Cronbach's Alpha	N of Items
.543	2

Ad 7

Reliability Statistics

Cronbach's Alpha	N of Items
.487	2

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.539	2

Ad 12

Reliability Statistics

Cronbach's Alpha	N of Items
.591	2

Ad 13

Reliability Statistics

Cronbach's Alpha	N of Items
.634	2

Visual Impact Factor

Case Processing Summary

		N	%
Cases	Valid	48	100.0
	Excluded [a]	0	.0
	Total	48	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.670	2

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.869	2

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.391	2

Ad 5

Reliability Statistics

Cronbach's Alpha	N of Items
.820	2

Ad 6

Reliability Statistics

Cronbach's Alpha	N of Items
.866	2

Ad 7

Reliability Statistics

Cronbach's Alpha	N of Items
.848	2

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.772	2

Ad 12

Reliability Statistics

Cronbach's Alpha	N of Items
.856	2

Ad 13

Reliability Statistics

Cronbach's Alpha	N of Items
.646	2

Complete Brand Judgement Factor

Case Processing Summary

		N	%
Cases	Valid	48	100.0
	Excluded[a]	0	.0
	Total	48	100.0

a. Listwise deletion based on all variables in the procedure.

Ad 1

Reliability Statistics

Cronbach's Alpha	N of Items
.855	4

Ad 2

Reliability Statistics

Cronbach's Alpha	N of Items
.850	4

Ad 3

Reliability Statistics

Cronbach's Alpha	N of Items
.900	4

Ad 5

Reliability Statistics

Cronbach's Alpha	N of Items
.938	4

Ad 6

Reliability Statistics

Cronbach's Alpha	N of Items
.901	4

Ad 7

Reliability Statistics

Cronbach's Alpha	N of Items
.916	4

Ad 11

Reliability Statistics

Cronbach's Alpha	N of Items
.891	4

Ad 12

Reliability Statistics

Cronbach's Alpha	N of Items
.937	4

Ad 13

Reliability Statistics

Cronbach's Alpha	N of Items
.921	4

Experiment 1 Shopping Habits and Brand Preferences Correlations

Correlations

		LOYAL	INFPROM	NOTICE	GENLIKE	GENINF	POSITIV	SPONT
LOYAL	Pearson Correlation	1	-.079	-.019	.047	-.098	-.002	-.616**
	Sig. (2-tailed)	.	.595	.898	.751	.507	.992	.000
	N	48	48	48	48	48	44	48
INFPROM	Pearson Correlation	-.079	1	-.020	-.201	.274	-.157	.193
	Sig. (2-tailed)	.595	.	.893	.171	.060	.309	.188
	N	48	48	48	48	48	44	48
NOTICE	Pearson Correlation	-.019	-.020	1	.519**	.297*	.312*	.006
	Sig. (2-tailed)	.898	.893	.	.000	.041	.039	.965
	N	48	48	48	48	48	44	48
GENLIKE	Pearson Correlation	.047	-.201	.519**	1	.152	.583**	-.001
	Sig. (2-tailed)	.751	.171	.000	.	.301	.000	.994
	N	48	48	48	48	48	44	48
GENINF	Pearson Correlation	-.098	.274	.297*	.152	1	.186	.287*
	Sig. (2-tailed)	.507	.060	.041	.301	.	.228	.048
	N	48	48	48	48	48	44	48
POSITIV	Pearson Correlation	-.002	-.157	.312*	.583**	.186	1	.033
	Sig. (2-tailed)	.992	.309	.039	.000	.228	.	.830
	N	44	44	44	44	44	44	44
SPONT	Pearson Correlation	-.616**	.193	.006	-.001	.287*	.033	1
	Sig. (2-tailed)	.000	.188	.965	.994	.048	.830	.
	N	48	48	48	48	48	44	48

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Experiment 2 Shopping Habits and Brand Preferences Correlations

Correlations

		LOYAL	INFPROM	NOTICE	GENLIKE	GENINF	POSITIV	SPONT
LOYAL	Pearson Correlation	1	-.134	.038	-.037	.053	.122	-.346*
	Sig. (2-tailed)	.	.354	.792	.797	.717	.399	.014
	N	50	50	50	50	50	50	50
INFPROM	Pearson Correlation	-.134	1	.157	.059	.122	-.046	.316*
	Sig. (2-tailed)	.354	.	.277	.685	.399	.752	.025
	N	50	50	50	50	50	50	50
NOTICE	Pearson Correlation	.038	.157	1	.603**	.501**	.284*	.097
	Sig. (2-tailed)	.792	.277	.	.000	.000	.046	.505
	N	50	50	50	50	50	50	50
GENLIKE	Pearson Correlation	-.037	.059	.603**	1	.417**	.390**	.041
	Sig. (2-tailed)	.797	.685	.000	.	.003	.005	.776
	N	50	50	50	50	50	50	50
GENINF	Pearson Correlation	.053	.122	.501**	.417**	1	.438**	.112
	Sig. (2-tailed)	.717	.399	.000	.003	.	.001	.439
	N	50	50	50	50	50	50	50
POSITIV	Pearson Correlation	.122	-.046	.284*	.390**	.438**	1	-.108
	Sig. (2-tailed)	.399	.752	.046	.005	.001	.	.455
	N	50	50	50	50	50	50	50
SPONT	Pearson Correlation	-.346*	.316*	.097	.041	.112	-.108	1
	Sig. (2-tailed)	.014	.025	.505	.776	.439	.455	.
	N	50	50	50	50	50	50	50

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Experiment 3 Shopping Habits and Brand Preferences Correlations

Correlations

		LOYAL	INFPROM	NOTICE	GENLIKE	GENINF	POSITIV	SPONT
LOYAL	Pearson Correlation	1	.000	.203	.157	-.005	.058	-.223
	Sig. (2-tailed)	.	1.000	.166	.286	.974	.693	.128
	N	48	48	48	48	48	48	48
INFPROM	Pearson Correlation	.000	1	.238	.000	.138	.030	.059
	Sig. (2-tailed)	1.000	.	.104	.998	.349	.840	.689
	N	48	48	48	48	48	48	48
NOTICE	Pearson Correlation	.203	.238	1	.658**	.588**	.296*	-.036
	Sig. (2-tailed)	.166	.104	.	.000	.000	.041	.808
	N	48	48	48	48	48	48	48
GENLIKE	Pearson Correlation	.157	.000	.658**	1	.520**	.384**	-.137
	Sig. (2-tailed)	.286	.998	.000	.	.000	.007	.353
	N	48	48	48	48	48	48	48
GENINF	Pearson Correlation	-.005	.138	.588**	.520**	1	.409**	-.104
	Sig. (2-tailed)	.974	.349	.000	.000	.	.004	.480
	N	48	48	48	48	48	48	48
POSITIV	Pearson Correlation	.058	.030	.296*	.384**	.409**	1	-.087
	Sig. (2-tailed)	.693	.840	.041	.007	.004	.	.556
	N	48	48	48	48	48	48	48
SPONT	Pearson Correlation	-.223	.059	-.036	-.137	-.104	-.087	1
	Sig. (2-tailed)	.128	.689	.808	.353	.480	.556	.
	N	48	48	48	48	48	48	48

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Attitude to the Ad and Informational/Transformational Correlations based on average scores for each advert across the subject sets

KEY
Content of cells = Pearson Correlation (2-tailed)
*** = significant at a level corrected by the Bonferroni method (0.001 level)

NOTE: Experiment 1 & 2 Ad and Brand Measures (including Brand Familiarity) – low value = high rank. Informational/Transformational scores – high value = high score.

VARIABLE	INFORMATIONAL SCORE Experiment		TRANSFORMATIONAL SCORE Experiment	
	1	2	1	2
Relevance	-.580***	-.182	-.404	-.704***
Informative	-.820***	-.702***	-.439	-.072
Eye-Catching	-.337	.044	-.470	-.436
Interesting	-.128	-.156	-.079	-.466
Easy to Understand	-.748***	-.321	-.518	-.355
Believable	-.738***	-.331	-.454	-.165
Enjoyable	-.310	.061	-.414	-.586***
More Likely to Try	-.742***	-.259	-.616***	-.575***
Overall Ad Rank	-.759***	-.352	-.568***	-.579***

Attitude to the Ad and Impact Correlations based on average scores for each advert across the subject sets

KEY
Content of cells = Pearson Correlation (2-tailed)
*** = significant at a level corrected by the Bonferroni method (0.001 level)

NOTE: Experiment 1 & 2 Ad and Brand Measures (including Brand Familiarity) – low value = high rank. Impact scores – high value = high recall.

VARIABLE	IMPACT Experiment 1	2	3
Relevance	-.403	-.524	.415
Informative	-.287	.249	.119
Eye-Catching	-.821***	-.906***	.945***
Interesting	-.801***	-.734***	.914***
Easy to Understand	-.103	-.202	.597
Believable	-.218	-.301	-.038
Enjoyable	-.845***	-.866***	.881***
More Likely to Try	-.599***	-.689***	.597
Overall Ad Rank	-.643***	-.675***	.862***
Brand Appeal	-.281	-.743***	.205
Value for Money	-.134	-.099	.058
Quality	-.281	-.483	-.103
Meeting Needs	-.218	-.374	.040
Overall Brand Rank	-.242	-.546***	.057

Attitude to the Ad and Recall Correlations based on average scores for each advert across the subject sets

KEY
Content of cells = Pearson Correlation (2-tailed)
*** = significant at a level corrected by the Bonferroni method (0.002 level)

NOTE: Experiment 1 & 2 Ad and Brand Measures (including Brand Familiarity) – low value = high rank. Recall scores – high value = high recall.

VARIABLE	RECALL Experiment 1	RECALL Experiment 2
Relevance	-.199	-.344
Informative	-.030	.014
Eye-Catching	-.340	-.020
Interesting	-.139	.002
Easy to Understand	-.140	-.255
Believable	-.222	-.390
Enjoyable	-.165	-.235
More Likely to Try	-.315	-.236
Overall Ad Rank	-.243	-.258
Brand Appeal	-.537***	-.458
Value for Money	-.566***	-.390
Quality	-.389	-.310
Meeting Needs	-.440	-.456
Overall Brand Rank	-.501	-.515

Partial Correlation Results for Recall while controlling for Pre-exposure

EXPERIMENT 1 (POSTER ADS CONDITION)

- - - P A R T I A L C O R R E L A T I O N C O E F F I C I E N T S - - -

Controlling for.. PREEXP

	RECALL	RELEV	INFORM	EYECATCH	INTEREST	UNDERST
RECALL	1.0000	-.1603	-.0098	-.3240	-.1852	-.0832
	(0)	(29)	(29)	(29)	(29)	(29)
	P= .	P= .389	P= .958	P= .075	P= .319	P= .656
RELEV	-.1603	1.0000	.5176	.2445	.4488	.3500
	(29)	(0)	(29)	(29)	(29)	(29)
	P= .389	P= .	P= .003	P= .185	P= .011	P= .054
INFORM	-.0098	.5176	1.0000	.2523	.3008	.8304
	(29)	(29)	(0)	(29)	(29)	(29)
	P= .958	P= .003	P= .	P= .171	P= .100	P= .000
EYECATCH	-.3240	.2445	.2523	1.0000	.7673	.1997
	(29)	(29)	(29)	(0)	(29)	(29)
	P= .075	P= .185	P= .171	P= .	P= .000	P= .281
INTEREST	-.1852	.4488	.3008	.7673	1.0000	.0069
	(29)	(29)	(29)	(29)	(0)	(29)

Experiment 1 (Poster Condition) Partial Correlation Results for Recall while controlling for Pre-exposure

	P= .319	P= .011	P= .100	P= .000	P= .	P= .971
UNDERST	-.0832	.3500	.8304	.1997	.0069	1.0000
	(29)	(29)	(29)	(29)	(29)	(0)
	P= .656	P= .054	P= .000	P= .281	P= .971	P= .
BELIEV	-.1920	.5641	.8008	.3402	.2993	.7632
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .301	P= .001	P= .000	P= .061	P= .102	P= .000
ENJOY	-.1642	.3636	.3111	.8580	.8608	.1520
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .377	P= .044	P= .088	P= .000	P= .000	P= .414
TRY	-.2979	.6202	.7127	.6829	.5978	.6364
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .104	P= .000	P= .000	P= .000	P= .000	P= .000
ADRANK	-.2178	.6532	.8125	.6945	.6779	.6860
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .239	P= .000	P= .000	P= .000	P= .000	P= .000

(Coefficient / (D.F.) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

—

- - - P A R T I A L C O R R E L A T I O N C O E F F I C I E N T S - - -

Controlling for.. PREEXP

	RECALL	RELEV	INFORM	EYECATCH	INTEREST	UNDERST
APPEAL	-.5263	.6219	.2396	.3323	.3502	.2417
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .002	P= .000	P= .194	P= .068	P= .053	P= .190
VALUE	-.5545	.6273	.4332	.2156	.3361	.3717
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .001	P= .000	P= .015	P= .244	P= .065	P= .039
QUALITY	-.3716	.6057	.2251	.2721	.3881	.1654
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .040	P= .000	P= .223	P= .139	P= .031	P= .374
NEEDS	-.4292	.7176	.3203	.2336	.3443	.2314
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .016	P= .000	P= .079	P= .206	P= .058	P= .210
BRNDRANK	-.4874	.6778	.3179	.2759	.3757	.2605
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .005	P= .000	P= .081	P= .133	P= .037	P= .157

(Coefficient / (D.F.) / 2-tailed Significance)
" . " is printed if a coefficient cannot be computed

Partial Correlation Results for Recall while controlling for Brand Usage/Brand Familiarity

EXPERIMENT 1 (POSTER ADS CONDITION)

- - - P A R T I A L C O R R E L A T I O N C O E F F I C I E N T S - - -

Controlling for.. USAGE

	RECALL	RELEV	INFORM	EYECATCH	INTEREST	UNDERST
RECALL	1.0000	.1553	.0590	-.2720	-.0237	-.0689
	(0)	(29)	(29)	(29)	(29)	(29)
	P= .	P= .404	P= .752	P= .139	P= .899	P= .713
RELEV	.1553	1.0000	.5492	.2115	.1966	.4842
	(29)	(0)	(29)	(29)	(29)	(29)
	P= .404	P= .	P= .001	P= .253	P= .289	P= .006
INFORM	.0590	.5492	1.0000	.2495	.2182	.7773
	(29)	(29)	(0)	(29)	(29)	(29)
	P= .752	P= .001	P= .	P= .176	P= .238	P= .000
EYECATCH	-.2720	.2115	.2495	1.0000	.6576	.2379
	(29)	(29)	(29)	(0)	(29)	(29)
	P= .139	P= .253	P= .176	P= .	P= .000	P= .198
INTEREST	-.0237	.1966	.2182	.6576	1.0000	-.1772
	(29)	(29)	(29)	(29)	(0)	(29)
	P= .899	P= .289	P= .238	P= .000	P= .	P= .340

Experiment 1 (Poster Condition) Partial Correlation Results for Recall while controlling for Brand Usage

UNDERST	-.0689	.4842	.7773	.2379	-.1772	1.0000
	(29)	(29)	(29)	(29)	(29)	(0)
	P= .713	P= .006	P= .000	P= .198	P= .340	P= .
BELIEV	.0419	.4734	.8383	.3161	.0970	.8132
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .823	P= .007	P= .000	P= .083	P= .604	P= .000
ENJOY	-.0878	.2986	.2916	.8409	.8174	.1146
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .639	P= .103	P= .111	P= .000	P= .000	P= .539
TRY	-.1108	.5226	.7360	.6820	.4714	.6371
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .553	P= .003	P= .000	P= .000	P= .007	P= .000
ADRANK	-.0530	.6119	.8290	.6915	.5268	.7013
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .777	P= .000	P= .000	P= .000	P= .002	P= .000

(Coefficient / (D.F.) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

Experiment 1 (Poster Condition) Partial Correlation Results for Recall while controlling for Brand Usage

- - - P A R T I A L C O R R E L A T I O N C O E F F I C I E N T S - - -

Controlling for.. USAGE

	RECALL	RELEV	INFORM	EYECATCH	INTEREST	UNDERST
APPEAL	-.1288	.4449	.3833	.4811	.0674	.6158
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .490	P= .012	P= .033	P= .006	P= .719	P= .000
VALUE	-.2871	.4158	.5365	.1378	.1058	.5148
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .117	P= .020	P= .002	P= .460	P= .571	P= .003
QUALITY	.2894	.3199	.2887	.2644	.2402	.2882
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .114	P= .079	P= .115	P= .151	P= .193	P= .116
NEEDS	.1931	.5883	.5574	.1468	.2244	.3599
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .298	P= .000	P= .001	P= .431	P= .225	P= .047
BRNDRANK	-.0049	.5669	.5881	.3086	.2106	.5781
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .979	P= .001	P= .001	P= .091	P= .255	P= .001

(Coefficient / (D.F.) / 2-tailed Significance)
" . " is printed if a coefficient cannot be computed

- - - P A R T I A L C O R R E L A T I O N C O E F F I C I E N T S - - -

Controlling for.. FAMILIAR

	RECALL	RELEV	INFORM	EYECATCH	INTEREST	UNDERST
RECALL	1.0000	.1254	.0075	-.2975	-.0496	-.0646
	(0)	(29)	(29)	(29)	(29)	(29)
	P= .	P= .501	P= .968	P= .104	P= .791	P= .730
RELEV	.1254	1.0000	.5709	.2420	.2388	.4712
	(29)	(0)	(29)	(29)	(29)	(29)
	P= .501	P= .	P= .001	P= .190	P= .196	P= .007
INFORM	.0075	.5709	1.0000	.2673	.2376	.7836
	(29)	(29)	(0)	(29)	(29)	(29)
	P= .968	P= .001	P= .	P= .146	P= .198	P= .000
EYECATCH	-.2975	.2420	.2673	1.0000	.6644	.2433
	(29)	(29)	(29)	(0)	(29)	(29)
	P= .104	P= .190	P= .146	P= .	P= .000	P= .187
INTEREST	-.0496	.2388	.2376	.6644	1.0000	-.1643
	(29)	(29)	(29)	(29)	(0)	(29)
	P= .791	P= .196	P= .198	P= .000	P= .	P= .377
UNDERST	-.0646	.4712	.7836	.2433	-.1643	1.0000
	(29)	(29)	(29)	(29)	(29)	(0)
	P= .730	P= .007	P= .000	P= .187	P= .377	P= .

Experiment 1 (Poster Condition) Partial Correlation Results for Recall while controlling for Brand Familiarity

BELIEV	.0478	.5182	.8571	.3360	.1341	.8013
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .799	P= .003	P= .000	P= .065	P= .472	P= .000
ENJOY	-.1052	.3156	.3050	.8429	.8196	.1206
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .573	P= .084	P= .095	P= .000	P= .000	P= .518
TRY	-.1499	.5733	.7450	.6845	.4906	.6276
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .421	P= .001	P= .000	P= .000	P= .005	P= .000
ADRANK	-.0807	.6411	.8374	.6964	.5426	.6950
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .666	P= .000	P= .000	P= .000	P= .002	P= .000

(Coefficient / (D.F.) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

Experiment 1 (Poster Condition) Partial Correlation Results for Recall while controlling for Brand Familiarity

- - - P A R T I A L C O R R E L A T I O N C O E F F I C I E N T S - - -

Controlling for.. FAMILIAR

	RECALL	RELEV	INFORM	EYECATCH	INTEREST	UNDERST
APPEAL	.0379	.6401	.5230	.5023	.2009	.5419
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .840	P= .000	P= .003	P= .004	P= .278	P= .002
VALUE	-.1786	.5289	.6635	.1872	.1784	.5394
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .336	P= .002	P= .000	P= .313	P= .337	P= .002
QUALITY	.3545	.5067	.4076	.3068	.3214	.2635
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .050	P= .004	P= .023	P= .093	P= .078	P= .152
NEEDS	.2626	.7083	.6116	.2122	.3085	.3066
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .153	P= .000	P= .000	P= .252	P= .091	P= .093
BRNDRANK	.1501	.7366	.6941	.3595	.3203	.5101
	(29)	(29)	(29)	(29)	(29)	(29)
	P= .420	P= .000	P= .000	P= .047	P= .079	P= .003

(Coefficient / (D.F.) / 2-tailed Significance)

" . " is printed if a coefficient cannot be computed

Correlations between Attitude to the Brand and Brand Usage/Familiarity average scores for each advert across the subject set

KEY

Content of cells = Pearson Correlation; Sig. (2-tailed)
*** = significant at a level corrected by the Bonferroni method (0.003)

NOTE: Experiment 1 & 2 Ad and Brand Measures (including Brand Familiarity) – low value = high rank.

VARIABLE	Brand Usage		Brand Familiarity	
	Exp 1	Exp 2	Exp 1	Exp 2
Brand Appeal	-.937***	-.542***	.908***	.426
Value for Money	-.770***	-.557***	.790***	.508***
Quality	-.915***	-.485	.871***	.294
Meeting Needs	-.935***	-.740***	.887***	.544***
Overall Brand Rank	-.938***	-.740***	.910***	.564***

*** = significant at a level corrected by the Bonferroni method (0.005)

VARIABLE	Brand Usage	Brand Familiarity
	Exp 3	Exp 3
Brand Appeal	.907***	.663
Value for Money	.781***	.742***
Quality	.876***	.763***
Meeting Needs	.780***	.675
Overall Brand Rank	.885***	.742***

Correlations between % of Total Fixations and % of Total Fixation Time

KEY

Content of cells = Pearson Correlation; Sig. (2-tailed)
*** = significant at 0.001 level; ** = significant at 0.01 level; * = significant at 0.05 level

Correlations between % of Total Fixations and % of Total Fixation Time – Experiment 1 averages

AOI	Brand Name	Pack Shot	Slogan	Picture
CORRELATION VARIABLES = % OF TOTAL FIXATIONS & % OF TOTAL FIXATION TIME	.978*** .000	.985*** .000	.947*** .000	.940*** .000

Correlations between % of Total Fixations and % of Total Fixation Time – Experiment 2 averages

AOI	Brand Name	Pack Shot	Slogan	Text	Picture
CORRELATION VARIABLES = % OF TOTAL FIXATIONS & % OF TOTAL FIXATION TIME	.954*** .000	.940*** .000	.907*** .000	.943*** .000	.952*** .000

Correlations between % of Total Fixations and % of Total Fixation Time – Experiment 3 averages

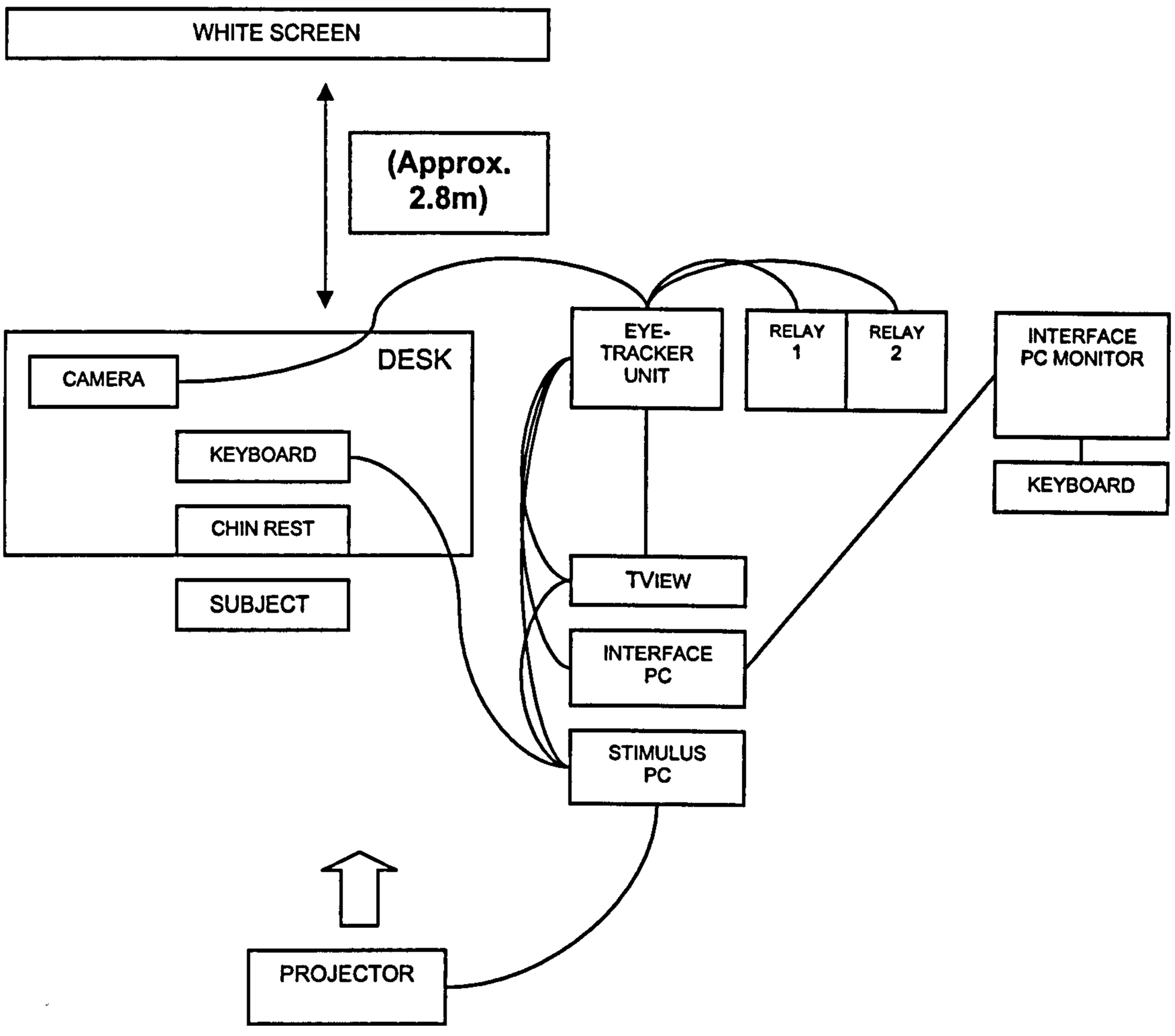
AOI	Brand Name	Pack Shot	Headline	Body Text	Picture
CORRELATION VARIABLES = % OF TOTAL FIXATIONS & % OF TOTAL FIXATION TIME	.995*** .000 N= 7	.974** .005 N= 5	.909** .005 N= 7	.895*** .001 N= 9	.993*** .001 N= 5

Appendix 2

Methods

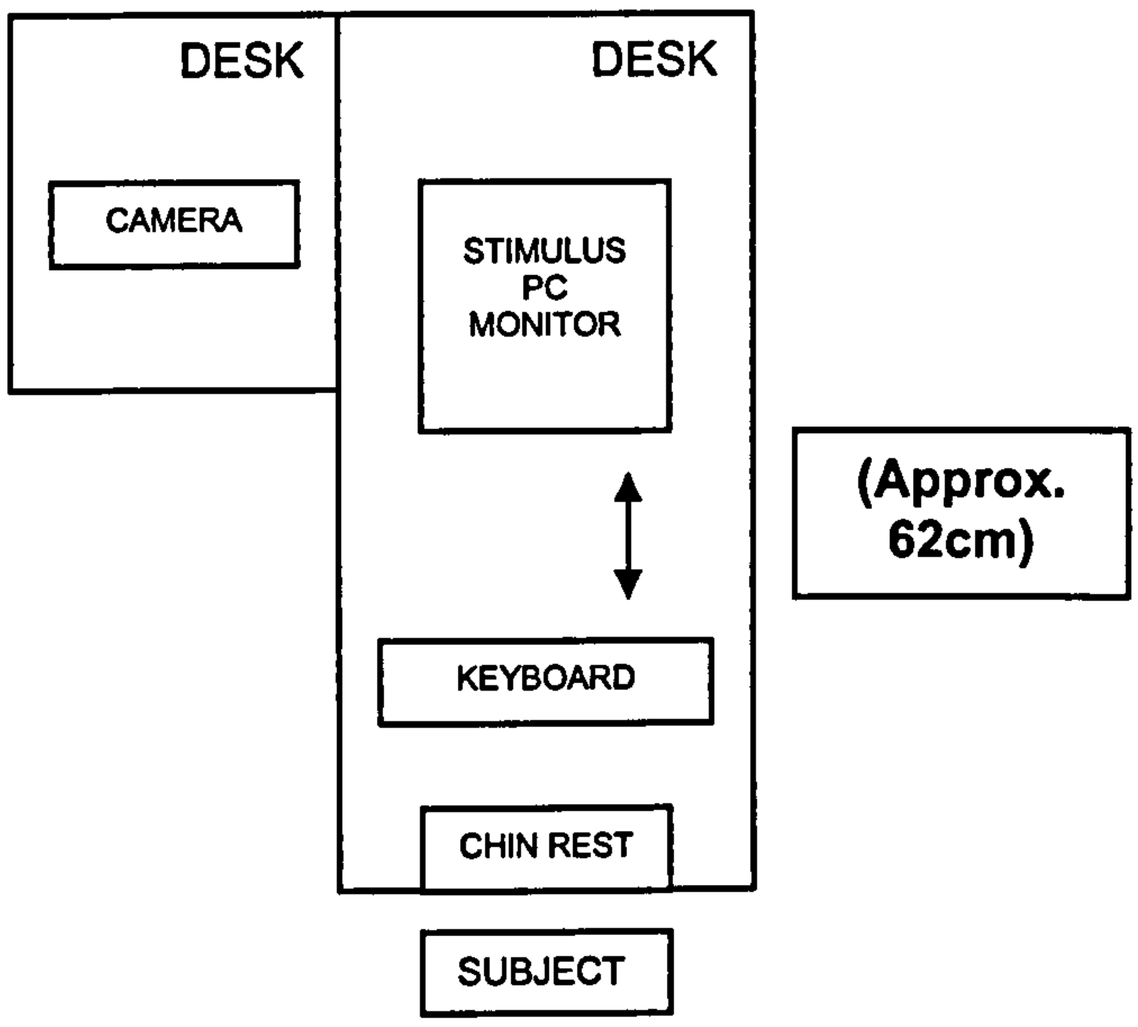
Eye-tracker Set-Up

EXPERIMENT 1 AND PILOT SET-UP (Poster Stimuli)



EXPERIMENTS 2 & 3SET-UP (Magazine and DM Stimuli)

Note: Diagram shows set-up of stimulus presentation without connections. Set-up of eye-tracking equipment remains as Experiment 1 above.



KEY

WHITE SCREEN: 2m x 2m projection screen
CAMERA: ASL remote mounted infrared camera
KEYBOARD: Connected to control computer/to stimulus pc to record subject responses
CHIN REST: Custom-made chin rest designed to keep head-movement to a minimum
SUBJECT: Subject position
PROJECTOR: Saville Model XL1100 projector displays stimuli onto white screen
EYE-TRACKER UNIT: ASL series 5000 control unit
TVIEW: TView Gold enables pc-to-display convergence
INTERFACE PC: Runs ASL Eyepos operating software
STIMULUS PC: Runs Presentation stimulus display software
RELAY 1: Black and white monitor shows scene display
RELAY 2: Black and white monitor shows eye display
INTERFACE PC MONITOR: Connected to interface pc to display active .eyd file
STIMULUS PC MONITOR: Connected to stimulus pc to display stimuli to subject
_____: Indicates a connection between equipment

Note: Measurements shown are the approximate distance between subject and screen.

Ad and Subject Variables: Pilot Study 2

KEY

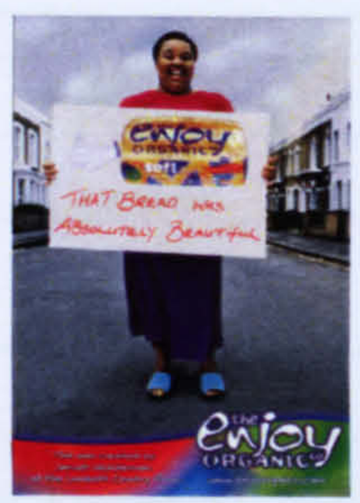
AD VARIABLES
LIKING – Average liking rating for each ad
TIME – Average time taken to make liking rating
NO.FIX – Average number of fixations made on each ad during 6 seconds of exposure
NO.FIXB – Average number of fixations made on the brand name in each ad
NO.FIXP – Average number of fixations made on the product name in each ad
RECALL – Average recall score of brand/product by subjects for each ad
FRECALL – Average number of brands/products falsely recalled
RECOG– Average recognition score of subjects for each ad
PREEXP – Average level of pre-exposure to each ad
RELEV– Average rating of how relevant each ad was perceived to be
INFO – Average rating of how informative each ad was perceived to be
EYECATCH – Average rating of how eye-catching each ad was perceived to be
INTEREST – Average rating of how interesting each ad was perceived to be
UNDERST – Average rating of how easy to understand each ad was perceived to be
BELIEV – Average rating of how believable each ad was perceived to be
ENJOY – Average rating of how enjoyable each ad was perceived to be
TRY – Average rating of how much more likely the subject is to try the brand in each ad
USAGE1 – Average level of use of each brand
USAGE2 – Average level of use of each brand repeated
USAGECH – Average change in usage scores
APPEAL1 – Average level of appeal of each brand
APPEAL2 – Average level of appeal of each brand repeated
APPEALCH – Average change in appeal scores
VALUE1 – Average level of value for money of each brand
VALUE2 – Average level of value for money of each brand repeated
VALUECH – Average change in value for money scores
QUALITY1 – Average level of quality of each brand
QUALITY2 – Average level of quality of each brand repeated
QUALITYCH – Average change in quality scores
NEEDS1 – Average level of being able to meet needs of each brand
NEEDS2 – Average level of being able to meet needs of each brand repeated
NEEDSCH – Average change in needs scores

SUBJECT VARIABLES
AGE – Average age
SPONT – Average spontaneity when shopping
LOYALTY – Average loyalty to brands
INFPROM – Average influence of promotions on behaviour
PREFCONS – Average brand preference consistency
REASCONS – Average reason for brand choice consistency
PURCONS – Average recent purchase consistency
LAUNDINV – Average laundry product involvement
TOILINV – Average toiletries product involvement
GROCINV – Average groceries product involvement
IMPINV – Average impulse snacks product involvement
FFINV – Average frozen foods involvement
NOTICE – Average level of notice taken of ads
GENLIKE – Average liking of ads in general
ADINF – Average influence of ads on behaviour
RECALLSC – Average recall score
RECALLF – Average number of false recalls
RECOGSC – Average recognition score
RECOGF – Average number of false recognitions

Appendix 3

Stimuli

Ad Selection: Pilot Study 1



Areas of Interest: Pilot Study 1

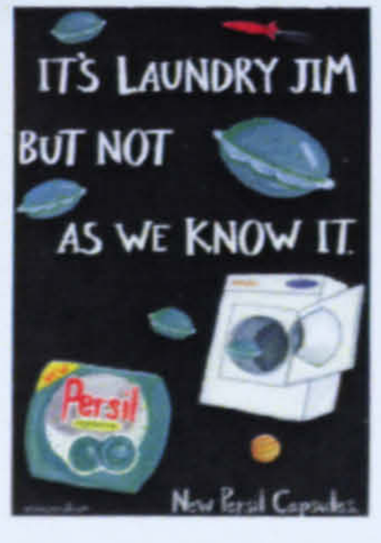
STIMULUS NAME	AOI 0	AOI 1	AOI 2	AOI 3	AOI 4	AOI 5	AOI 6	AOI 7	AOI 8
aero lift	off	brandname	adslogan	pdctname					
BRANSTON CLOTHESLINE	off	adpic(txt)	adslogan	packshot	pdctslogan	brandname [packshot]	pdctname [packshot]		
crunchie friday	off	adslogan	packshot	pdctname [packshot]	brandname [pdctname] [packshot]				
ENJOY STREET	off	adpic(fce)	packshot	pdctname [packshot]	adslogan	adtext	brandname	website	
golden wonder packet	off	packshot	adslogan	brandname [packshot]	pdctname [packshot]	persuader [packshot]			
heinz sponge	off	brandname	pdctname	adpic(pct)	persuader				
ICEWHITE	off	adpic(fce)	adslogan	packshot	brandname [pdctname] [packshot]	pdctname [packshot]	tidysymbol		
jaffa cakes escalator	off	packshot1	packshot2	adslogan	brandname	pdctname1 [packshot1]	pdctname2 [packshot2]		
m & s dessert	off	pdctname	brandname	brndslogan	adpic(pct)				
maynards winegums	off	packshot	pdctname [packshot]	adslogan	brandname	pdctname-2			
mini cheddars tangy	off	adslogan	packshot	brandname [packshot]	pdctname [packshot]				
ORIENTAL EXPRESS	off	adslogan	brandname	brndslogan	packshot1	packshot2	adpic(fce)	pdctname2 [packshot2]	pdctname1 [packshot1]
pepparami	off	adslogan	adpic(fce)						
pringles 45p	off	adslogan	pdctprice	packshot	brandname [packshot]	pdctname [packshot]	persuader [packshot]	slogan2	
QUAKER OATS	off	adslogan	packshot	brandname [packshot]	pdctname [packshot]	persuader [packshot]	healthinfo [packshot]	adpic(pct) [packshot]	
snickers cruncher	off	adpic(pct)	adslogan	packshot	pdctname [packshot]	pdctname-2			
solero ice	off	adslogan	pdctname	brandname [pdctname]	adpic(pct) [pdctname]	adpic(fce)	adpic(btm)		
SQUEGG FISH	off	brandname	pdctname	packshot	pdctname-2 [packshot]	pdctname-3 [packshot]	adpic(slg)	adslogan	
walls magnum	off	brandname	pdctname	adpic(fce)	adpic(btm)				
weetabix pack	off	adslogan	pdctname	pdctslogan	brandlogo				

NOTE: Ads shown in upper case all contain the 5 most common AOIs; Any AOIs stated in brackets represent overlapping areas.

KEY

OFF – any area of the ad not defined by an AOI
BRANDNAME – area where the brand name is shown
BRANDLOGO – area where a brand logo is placed
PDCTNAME (1) – area where the product name is shown
PDCTNAME2 – area where a second product name is shown
PDCTNAME-2 – second area where the primary product name is shown
PDCTNAME-3 – third area where the primary product name is shown
PACKSHOT (1) – area where the product packaging is shown
PACKSHOT2 – area where a second product packaging is shown
ADSLOGAN – area containing the primary advertising slogan
ADTEXT – area containing text other than that defined in main AOIs
ADPIC – area containing a pictorial element (pct - picture of the product; fce - facial image; txt - picture including some textual elements; btm - bottom half of ad picture; slg – picture directly related to the ad slogan)
PDCTSLOGAN – area containing a slogan associated with the product
BRNDSLOGAN – area containing a slogan associated with the brand
SLOGAN2 – area containing a further slogan
WEBSITE – area where a website address is shown
PDCTPRICE – area where a specific product price is stated
SYMBOL – area containing a type of symbol not necessarily related to the brand or product
HEALTHINFO – area containing specific information about a healthy lifestyle
PERSUADER – area containing a persuasive piece of information *e.g.* 'best ever flavour'

Ad Selection: Pilot Study 2



Areas of Interest: Pilot Study 2

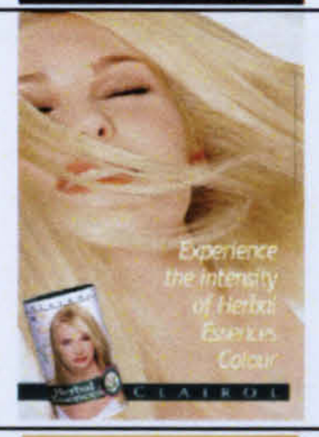
KEY

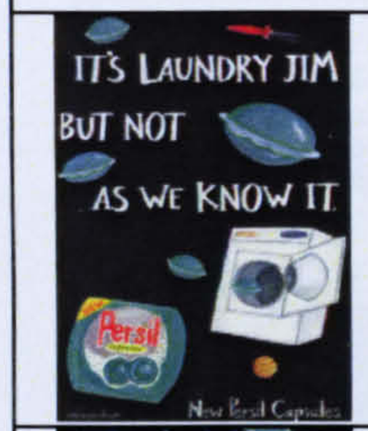
BRAND – Area of ad where brand name is stated
PACKSHOT – Area of ad where picture of product packaging is shown
PRODUCT – Area of ad where product name is stated
PIC – Area of ad where an image is shown
SLOGAN – Area of ad where the main slogan is shown
WEBSITE – Area of ad where an internet address is shown
TEXT – Area containing text other than that defined in main AOIs
LOGO – Area of ad where a brand logo is shown

TEXT/PIC – Textual or pictorial areas of ad defined by categorising above AOIs

BRAND/PRODUCT INFO. – Brand and product information are defined as combination of areas where the brand or product name are stated in each ad

Experiment 1 Poster Ads

	BRAND/ PRODUCT	MEDIUM	AD	BRAND/ PRODUCT	MEDIUM	AD	BRAND/ PRODUCT	MEDIUM
	Wella Vivality	Poster		Sure Anti-perspirant	Poster		Ariel Liqui-tabs	Poster
	Impulse Anti-perspirant	Poster		Clairol Herbal Essences	Poster		Surf	Poster
	Timotei Orange and Wild Mint	Poster		Sure Anti-perspirant	Poster		Persil Aloe Vera	Poster
	Impulse Body Spray	Poster		Timotei Golden Highlights	Poster		Comfort	Poster

AD	BRAND/ PRODUCT	MEDIUM	AD	BRAND/ PRODUCT	MEDIUM	AD	BRAND/ PRODUCT	MEDIUM
	Persil Capsules	Poster		Heinz Tomato Soup	Poster		Nescafé	Poster
	Persil Tablets	Poster		McVitie's Jaffa Cakes and Milk Chocolate Digestives	Poster		Kenco Rappor	Poster
	Persil Performance	Poster		Weetabix	Poster		PG Tips Pyramid	Poster
	Surf Cotton Fresh	Poster		Branston	Poster		Quaker Oats	Poster

AD	BRAND/ PRODUCT	MEDIUM	AD	BRAND/ PRODUCT	MEDIUM
	Snickers Cruncher	Poster		Nestlé Aero	Poster
	Walls Magnum	Poster		Cadbury's Crunchie	Poster
	Nestlé Mega-truffle	Poster		Lion	Poster
	Walls Solero Ice	Poster		Maynard's Wine Gums	Poster

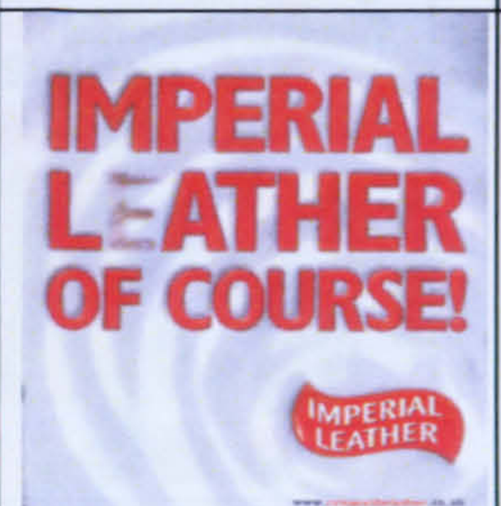
Experiment 2 Magazine Ads

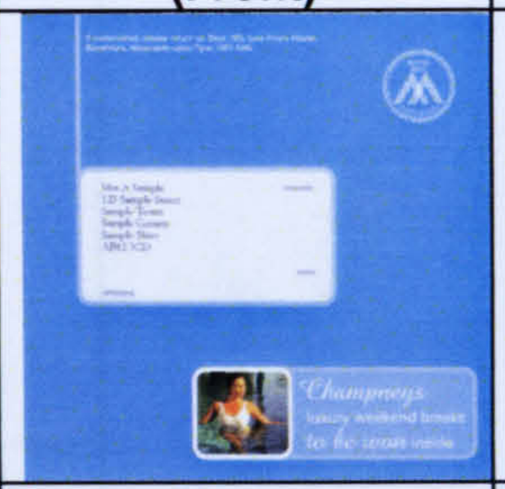
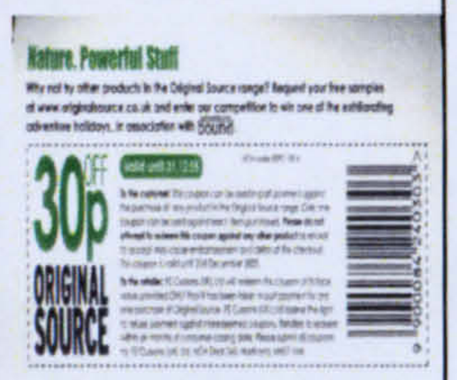
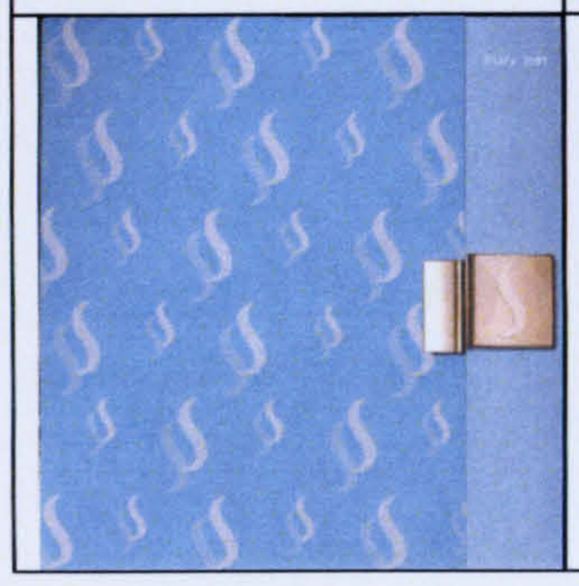
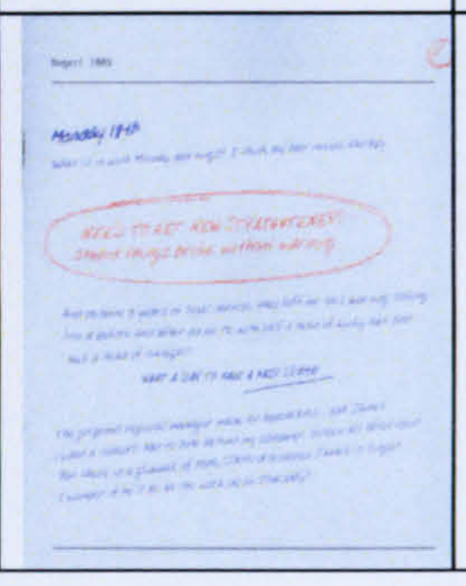
AD	BRAND/ PRODUCT	MEDIUM	AD	BRAND/ PRODUCT	MEDIUM	AD	BRAND/ PRODUCT	MEDIUM
	Ariel	Magazine		Birdseye peas	Magazine		Clairol Herbal Essences Colour	Magazine
	Ariel non-bio	Magazine		Bold 2 in 1	Magazine		Comfort Fast Dry	Magazine
	Bertolli	Magazine		Carte D'Or Fruit and Fresh	Magazine		Dove deodorant	Magazine
	Birdseye chicken	Magazine		CK One	Magazine		Dove shampoo and conditioner	Magazine

AD	BRAND/ PRODUCT	MEDIUM	AD	BRAND/ PRODUCT	MEDIUM	AD	BRAND/ PRODUCT	MEDIUM
	Golden Wonder Golden Lights	Magazine		Lenor Easy Iron	Magazine		Persil Aloe Vera	Magazine
	Homepride Cook-in-Sauce	Magazine		Maltesers	Magazine		Persil Performance	Magazine
	Impulse anti-perspirant	Magazine		Rolo	Magazine		PG Tips Pyramid	Magazine
	Kenco Decaffeinated	Magazine		Palmolive Soft & Gentle	Magazine		PG Tips	Magazine

AD	BRAND/ PRODUCT	MEDIUM	AD	BRAND/ PRODUCT	MEDIUM
	Rowntrees Fruitsome	Magazine		Vaseline Intensive Care moisturiser	Magazine
	Sure anti-perspirant	Magazine		Walkers Sensations	Magazine
	Surf 99 stains	Magazine		Walls Cornetto Miniatures	Magazine
	Tetley Decaf	Magazine		Walls Magnum	Magazine

Experiment 3 Direct Marketing (DM) Ads

AD (Front)	AD (First Page)	MEDIUM	BRAND/ PRODUCT	AD (Front)	AD (First Page)	MEDIUM	BRAND/ PRODUCT
		DM	Birdseye			DM	Flora Pro-Activ
		DM	PG Tips			DM	Dove Firming
		DM	Birdseye Chicken O's			DM	Imperial Leather

AD (Front)	AD (First Page)	MEDIUM	BRAND/ PRODUCT	AD (Front)	AD (First Page)	MEDIUM	BRAND/ PRODUCT
		DM	Dove Hair			DM	Sure Anti-perspirant
		DM	Original Source			DM	Persil Liquigel
		DM	Sunsilk			DM	Surf

AD (Front)	AD (First Page)	MEDIUM	BRAND/ PRODUCT
		DM	Surf
		DM	Comfort Pure

Areas of interest (AOI) Definitions

Poster and Magazine Ads (Experiments 1 & 2)

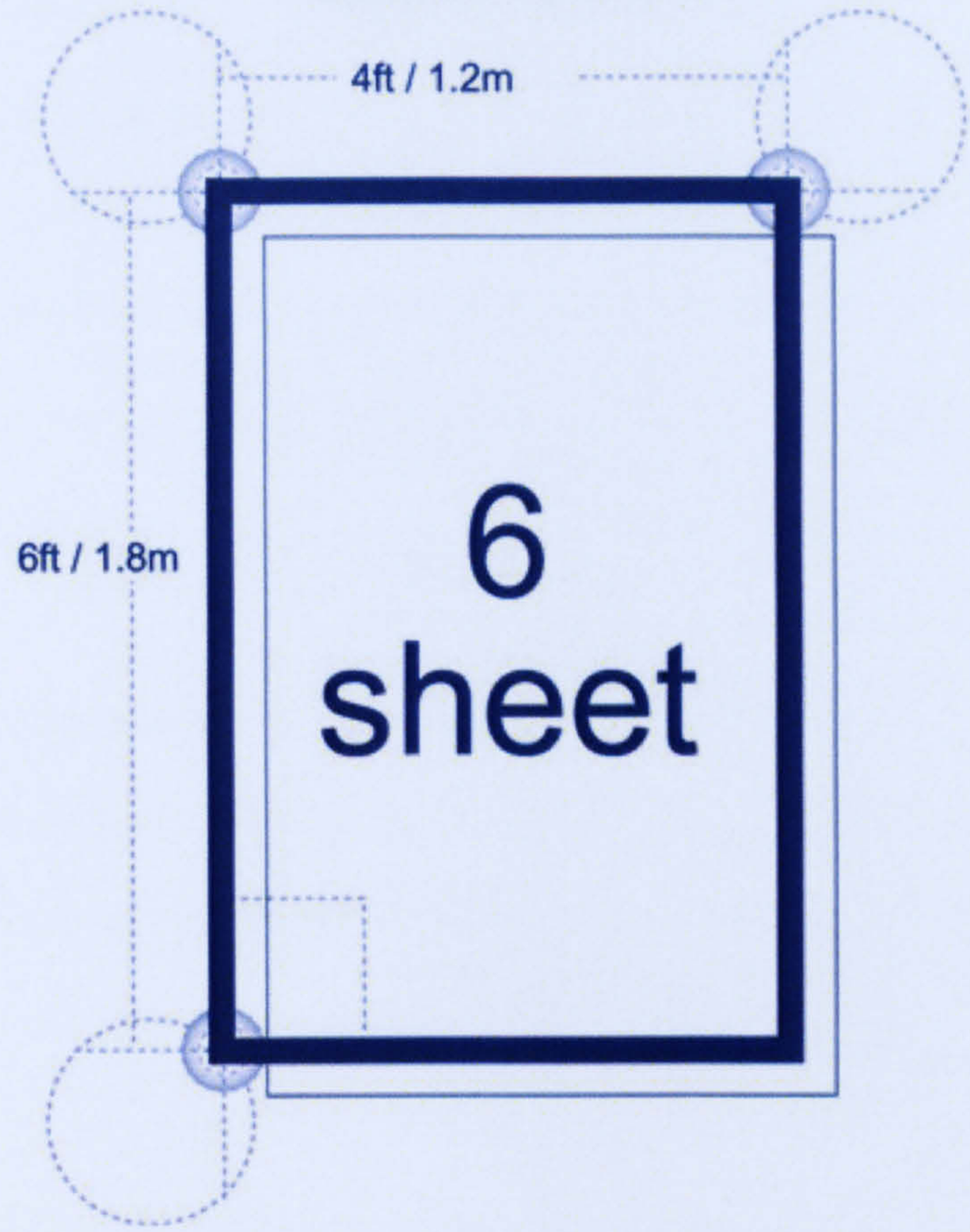
Brand name- Main brand name tested by recall (primary feature of the ad)
Secondary brand name - Other brand name shown in ad (higher-order brand)
Pack shot - Image of product packaging
Product - Definable picture of the product
Slogan - Main slogan/strap line in ad
Secondary slogan - Other slogan used in ad
Text - Main area of text after slogan
Secondary text - Other text in ad
Picture - Main pictorial interest/s in ad
Secondary picture - Other pictorial element
Information - Area containing other information *e.g.* web address, logo

DM Ads (Experiment 3)

Brand name - Main brand name tested by recall (primary feature of the ad)
Brand slogan - Slogan specifically associated with the brand
Brand information - Information about the brand *e.g.* 'trusted brand', 'dermatologically tested'
Secondary brand name - Other brand name shown in ad (higher-order brand)
Product name - Name of the specific product line advertised
Product information - Information about the product *e.g.* ingredients
Slogan - Main slogan/strap line in ad
Headline - Main textual header on page
Body text - Main section of text on page
Bold text - Area of text defined in bold
Text - Separate area of text
Secondary text - Other text after the main areas, text in small print
Pack shot - Image of product packaging
Product - Definable picture of the product
Picture - Main pictorial interest/s on page
Secondary picture - Other pictorial element
Address - Area where addressee is shown
Post mark - Postmark on envelope
Sender - Area where the sender of the correspondence is shown
Persuader - Area where a persuasive message is shown *e.g.* 'money-off coupon inside'
Instruction - Text containing specific instructions to the reader
Logo - Logo other than that of the brand
Contact information - Area containing contact information *e.g.* web address, phone number
Form - Section of the ad where a form/questionnaire is shown
Sample - Sample of the product
Coupon - Money-off coupon/voucher, may contain one of the sub-areas below:
(Brand name detail - Area of coupon where the brand name is shown)
(Offer - Area of coupon where the offer is highlighted)

(Pack shot detail - Area of coupon where the pack shot is shown)
(Text detail - Area of coupon where textual details are given)
(Name - Area of coupon where customer's name is shown)
Background - Background area containing elements other than those defined above

ClearChannel UK
6 sheet dimensions



(www.clearchannel.co.uk)

Appendix 4

Questionnaires

Stage 1 Questionnaire (Experimental Conditions 1, 2 & 3)

Items:

- **Personal Information**

Subject demographics *i.e.* Age, marital status, occupation (full or part time), partner's occupation, annual household income, weekly household grocery shopping spend, if a homeowner, ages of children living at home. This provided Lever Fabergé with information about the sample, and allowed extraneous variables such as the effect of age to be included in the investigation.

- **Shopping Habits**

Personal shopping habits: Spontaneity, loyalty to brands, influence of promotions, influence of children on purchases (if applicable). These measures outlined the subjects' shopping style.

- **Brand Preferences**

Top 2 preferred brands across tested product groups and reason for purchase in each category (quality, price, habit, personal taste, promotion, loyalty or advertising) assessed in order for brand consistency and possible purchase decision influences to be explored.

- **Attitudes to Advertising in general**

How the subjects generally feel about advertising *i.e.* how much notice they take of advertising, how much they like adverts and how far they believe advertising affects their purchases.

- **Product Involvement**

Product Decision Involvement (PDI) scale for each product category [Mittal (1989), in Bearden & Netemeyer (1999) Handbook of Marketing Scales][49].

This scale replaced the Product Involvement Scale used in Pilot Study 2, as it consisted of 2 less items, making it easier and quicker for subjects to complete as part of a long questionnaire. It measures the amount of interest/concern consumers have in a particular type of purchase decision. Although the original version of this scale uses a 7-point scale, here the items were scored on a 0-10 point Likert scale. Scores for each product type were averaged across items and across subjects. Although all FMCG products are relatively low-involvement (compared to high-cost purchases such as a car, for example), between-category differences can be shown.

See Appendix 1 for a copy of this scale.

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[49] Bearden, W. O. & Netemeyer, R. G. (1999). *Handbook of Marketing Scales: Mulit-item measures for marketing and consumer behavior research (2nd edition)*. California: Sage Publications, Inc.
Mittal, B. I. (1989). Measuring Purchase Decision Involvement. *Psychology & Marketing, 6*(Summer), 147-162.

Stage 1 Questionnaire example

Section 1: Personal Information

Please be as specific as possible.

Ask the experimenter if any questions are not clear or you feel they are not applicable to you or your situation.

Name: _____ Today's Date: _____

Subject No. (Allocated by experimenter) _____

Date of Birth: _____

Marital Status: (Please circle)
Single / Living with partner / Married / Divorced or separated / Widowed

Current Occupation: _____

Also please circle and specify if applicable:
Full Time / Part Time (___ hours per week)

Partner's Occupation: _____

Annual Household Income before tax: (Please circle)
Less than/£11,000-£15,000/£16,000-£20,000/£21,000-£25,000/£26,000-£30,000/£31,000-£35,000/More than £11,000 £35,000

What is your approximate household spending on supermarket shopping each week? (Please circle)
Less than £26/£26-£50 /£51-£75/£76-£100/£101-£125/£126-£150/£151-£175/£176-£200/More than £200

Are you a homeowner? (Please circle)
Yes / No

Ages of children living at home: _____

E-mail address (if applicable): _____@_____

Contact phone no. _____

Please be honest, give instinctive answers and make full use of the range of the scales.

Ask the experimenter if any questions are not clear.

Section 2: Shopping Habits

Place a cross on the scale at the position that indicates the strength of your opinion and best reflects your shopping habits (specifically supermarket shopping).

- **How spontaneous a shopper are you?**

I buy the same items most /all of the time when I shop |_____|_____| **I try different items most/all of the time when I shop**

- **How loyal are you in general, to different brands?**

I try different brands most /all of the time when I shop |_____|_____| **I buy the same brands most/all of the time when I shop**

- **How influenced are you by in-store promotions?**

My choices are seldom influenced by promotions |_____|_____| **My choices are mostly/always influenced by promotions**

- **To what extent is your shopping influenced by your children?**

Not at all |_____|_____| **To a great extent**

Section 3: Brand Preferences

- **Please specify your top 2 preferred <u>brands</u> (not supermarket's own) when you purchase the following types of product:**

	1	2
Toiletries		
Deodorant	_____	_____
Shampoo	_____	_____
Moisturiser	_____	_____
Hair colourant	_____	_____
Laundry		
Washing powder/variant	_____	_____
Fabric conditioner	_____	_____
Groceries		
Tea	_____	_____
Coffee	_____	_____
Soup	_____	_____
Biscuits	_____	_____
Cereal	_____	_____
Condiments	_____	_____
Impulse snacks		
Chocolate bar	_____	_____
Ice cream	_____	_____
Sweets	_____	_____

- **In general, why do you buy your preferred brand?**

For each of the following categories, put a tick underneath ONE statement which best reflects your views:

	Quality	*Price*	*Habit*	*Personal taste*	*Promotion*	*Loyalty*	*Advertising*
Toiletries							
Deodorant	☐	☐	☐	☐	☐	☐	☐
Shampoo	☐	☐	☐	☐	☐	☐	☐
Moisturiser	☐	☐	☐	☐	☐	☐	☐
Hair colourant	☐	☐	☐	☐	☐	☐	☐
Laundry							
Washing powder/variant	☐	☐	☐	☐	☐	☐	☐
Fabric conditioner	☐	☐	☐	☐	☐	☐	☐
Groceries							
Tea	☐	☐	☐	☐	☐	☐	☐
Coffee	☐	☐	☐	☐	☐	☐	☐
Soup	☐	☐	☐	☐	☐	☐	☐
Biscuits	☐	☐	☐	☐	☐	☐	☐
Cereal	☐	☐	☐	☐	☐	☐	☐
Condiments	☐	☐	☐	☐	☐	☐	☐
Impulse snacks							
Chocolate bar	☐	☐	☐	☐	☐	☐	☐
Ice cream	☐	☐	☐	☐	☐	☐	☐
Sweets	☐	☐	☐	☐	☐	☐	☐

Section 4: Attitudes to Advertising

Place a cross on the scale at the position that most reflects your attitudes.

- **How much do you notice advertising?**

I go out of my way to avoid advertising |_____|_____| **I notice ads all the time**

- **In general, how much do you like adverts?**

Not at all |_____|_____| **To a great extent**

- **To what extent do you think advertising affects your purchases?**

Not at all |_____|_____| **To a great extent**

Section 5: Product Involvement (PDI)

TOILETRIES

- **In selecting from many types and brands of this product available in the market, would you say that:**

I would not care at all as to which one I buy |_____|_____| **I would care a great deal as to which one I buy**

- **Do you think that the various types and brands of this product available in the market are all very alike or are all very different?**

They are alike |_____|_____| **They are different**

- **How important would it be to you to make a right choice of this product?**

Not at all important |_____|_____| **Extremely important**

- **In making your selection of this product, how concerned would you be about the outcome of your choice?**

Not at all concerned |_____|_____| **Very much concerned**

LAUNDRY

- **In selecting from many types and brands of this product available in the market, would you say that:**

I would not care at all as to which one I buy |_____|_____| **I would care a great deal as to which one I buy**

- **Do you think that the various types and brands of this product available in the market are all very alike or are all very different?**

They are alike |_____|_____| **They are different**

- **How important would it be to you to make a right choice of this product?**

Not at all important |_____|_____| **Extremely important**

- **In making your selection of this product, how concerned would you be about the outcome of your choice?**

Not at all concerned |_____|_____| **Very much concerned**

GROCERIES

- **In selecting from many types and brands of this product available in the market, would you say that:**

I would not care at all as to which one I buy |_____|_____| **I would care a great deal as to which one I buy**

- **Do you think that the various types and brands of this product available in the market are all very alike or are all very different?**

They are alike |_____|_____| **They are different**

- **How important would it be to you to make a right choice of this product?**

Not at all important |_____|_____| **Extremely important**

- **In making your selection of this product, how concerned would you be about the outcome of your choice?**

Not at all concerned |_____|_____| **Very much concerned**

IMPULSE SNACKS

- **In selecting from many types and brands of this product available in the market, would you say that:**

I would not care at all as to which one I buy |_____|_____| **I would care a great deal as to which one I buy**

- **Do you think that the various types and brands of this product available in the market are all very alike or are all very different?**

They are alike |_____|_____| **They are different**

- **How important would it be to you to make a right choice of this product?**

Not at all important |_____|_____| **Extremely important**

- **In making your selection of this product, how concerned would you be about the outcome of your choice?**

Not at all concerned |_____|_____| **Very much concerned**

Thank-you. You will now be asked to complete the eye-tracking component of this experiment.

Stage 2 Questionnaire (Experimental Conditions 1, 2 & 3)

Participants were issued with a set of postcard-sized prompts of the adverts they had been exposed to (or actual DM adverts), as an aid to assessing the items below for each advert in turn. This was done by subjects ranking the adverts (experiments 1 & 2; experiment 3 used Likert scales) or by sorting them into categories according to the type of question.

Items:

- **Liking**

(General likeability)

- **Memory**

Recall test using a set of adverts with the brand names blurred. This type of memory measure was chosen to compare to other advertisement measures, to establish whether remembering what the brand name was after seeing an advert related to attitudes towards that advert. As recall measures have been used frequently in past effectiveness tests (discussed in Chapter 1), it was important to include this type of question to test its actual worth.

- **Impact**

Did the advert particularly stand out? Subjects were asked to distinguish between those adverts that they felt made an immediate impression and those that did not.

- **Pre-exposure**

Past experience of the advert (not seen before, seen once or seen more than once). Although the adverts used were not current as far as possible, a pre-exposure measure was included to assess any potential effects of having seen some of the adverts prior to taking part in the experiment.

- **Attitudes to the Ad**

How relevant (significant to their lifestyle), informative (containing facts about the featured product), eye-catching (attention-grabbing), interesting (containing some appealing factor), easy to understand (a clear message), believable (trustworthy content/message), enjoyable (pleasing to view) the adverts were and how much more likely they made subjects to try the brand in the future. These measures were introduced to evaluate how positive or negative attitudes towards the adverts were in terms of a selection of advertising characteristics. These were chosen based on representing a spectrum of types of attitude judgement relating to advertising material, example measures commonly used in previous tracking research, and elements of advert perception of particular interest to Lever Fabergé. Subjects were asked to rate the adverts on each element in turn.

- **Ad Definitions**

Were the adverts busy/striking/plain or clear? Confusing/clever/ordinary or straightforward? Cluttered/intriguing/dull or simple? This measure has been used by advertising agencies to outline specific descriptors of consumer attitudes towards the overall impression of the advert.

- **Brand Usage**

Past experience of the brand (brand involvement) was included so that any possible effects on other advert or brand variables could be monitored.

- **Attitudes to the Brand**

How appealing the brands were, how much value for money and quality they would offer, how good they would be at meeting needs and how familiar the brands were to the subjects. These brand assessment points were included as complimentary measures to the selection of ad variables outlined above *i.e.* representing a spectrum of dimensions on which a brand may be judged. These measures have also been commonly used in advertising surveys carried out by advertising agencies.

- **Brand Associations**

Subjects were asked to write down any thoughts or associations the adverts created about the featured brands. Heath (2000b)[50] believes that statements should be elicited from the consumer, to find out what they associate with brands, rather than imposed by brand owners. These responses were able to indicate what types of feelings about the brand were being created by the ad.

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[50] Heath, R. (2000). Low-Involvement Processing. Part Two: Seven new rules for evaluating brands and their communication. *Admap*.

Stage 2 Questionnaire example

Name: _____ Today's Date: _____

Subject No. _____

You will be provided with prompts to help you with some of the following questions.

Section 1: Recall

You will require the first set of prompt cards (blurred) for this section.

Please name the brand in each of the ads.

Ad 1 _____

Ad 2 _____

Ad 3 _____

Ad 4 _____

Ad 5 _____

Ad 6 _____

Ad 7 _____

Ad 8 _____

Ad 9 _____

Ad 10 _____

Ad 11 _____

Ad 12 _____

Ad 13 _____

Ad 14 _____

Ad 15 _____

Ad 16 _____

Ad 17 _____

Ad 18 _____

Ad 19 _____

Ad 20 _____

Ad 21 _____

Ad 22 _____

Ad 23 _____

Ad 24 _____

Ad 25 _____

Ad 26 _____

Ad 27 _____

Ad 28 _____

Ad 29 _____

Ad 30 _____

Ad 31 _____

Ad 32 _____

Section 2: Ad Specifics

You will require the second set of prompt cards (non-blurred) for this section.

- **Impact**

Please sort the cards into 2 piles:

1) Those ads that you feel particularly 'stood out' in the selection
2) Those ads that didn't particularly 'stand out' to you

- **Pre-exposure**

Please sort the cards into 4 piles:

1) Those you have never seen before
2) Those you have seen only once before
3) Those you have seen more than once before
4) Those you are unsure about (Please avoid using this pile where possible)

- **Attitudes to the Ad**

People can respond to advertising in different ways. Please indicate your view on the adverts by ranking them in order for the following judgements (lay the cards out in front of you in a row where the ad on the far left hand side is the one you feel strongly conforms to each judgment, and the one on the far right hand side is the one you feel conforms the least):

1) How relevant the ads are to you
2) How informative you feel the ads are
3) How eye-catching you find the ads
4) How interesting you find the ads
5) How easy to understand the ads are
6) How believable the ads are
7) How enjoyable the ads are
8) How much more likely the ads make you to try the brand in the future

Please make 4 piles with the cards according to these descriptions you may apply to the ads:

1) Busy
2) Striking
3) Plain
4) Clear

Please make 4 piles with the cards according to these descriptions you may apply to the ads:

1) Confusing
2) Clever
3) Ordinary
4) Straightforward

Please make 4 piles with the cards according to these descriptions you may apply to the ads:

1) Cluttered
2) Intriguing
3) Dull
4) Simple

- **Brand Usage**

Please sort the cards into 4 piles according to the following statements to reflect your usage of the brands featured in the ads:

1) I most prefer to buy this brand
2) This brand is one of a number of brands I would consider buying nowadays
3) I have bought this brand in the last 12 months
4) I would not consider buying this brand

- **Attitudes to the Brand**

Please indicate your view on the brands by ranking them in order for the following judgements (lay the cards out in front of you in a row where the ad on the far left hand side is the one you feel strongly conforms to each judgment, and the one on the far right hand side is the one you feel conforms the least):

1) How much more the brands appeal to you, compared to equivalent brands
2) How much value for money the brands offer
3) The level of quality the brands offer
4) How good the brands are at meeting your needs
5) How familiar you are with the brands

Open Questions

Please look through the selection of ads in order and use the spaces below to write any words or phrases that you associate with the brands:

Ad 1 _____

Ad 2 _____

Ad 3 _____

Ad 4 _____

Ad 5 _____

Ad 6 _____

Ad 7 _____

Ad 8 _____

Ad 9 _____

Ad 10 _____

Ad 11 _____

Ad 12 _____

Ad 13 _____

Ad 14 _____

Ad 15 _____

Ad 16 _____

Ad 17 _____

Ad 18 _____

Ad 19 _____

Ad 20 _____

Ad 21 _____

Ad 22 _____

Ad 23 _____

Ad 24 _____

Ad 25 _____

Ad 26 _____

Ad 27 _____

Ad 28 _____

Ad 29 _____

Ad 30 _____

Ad 31 _____

Ad 32 _____

Stage 3 Questionnaire (Experimental Conditions 1, 2 & 3)

Items:

- **Re-assessment of brand preferences**

(As described in Stage 1)

- **Memory re-test (brand recall)**

(As described in Stage 2)

- **Intermediate exposure to the ads**

(Although it was very unlikely that the subjects would have seen any of the adverts in between sessions, this measure was included to check this)

When time permitted, subjects were also shown their own scan paths and asked if they recognised them as their own, if they could identify any particular patterns of gaze related to the areas they looked at and the order they looked at them, and if there were any particular reasons for their eye-movement behaviour. This was designed to capture any further insights into attention patterns from consumers' own perceptions.

Stage 3 Questionnaire example

Name: _____ Today's Date: _____

Subject No. _____

Please be honest when giving your responses.

Ask the experimenter if any questions are not clear.

You will be provided with prompts to help you with some of these questions.

On completion of this stage you will be able to collect your full payment of £50.

Section 1: Brand Preferences

- **Please specify your top 2 preferred <u>brands</u> (not supermarket's own) when you purchase the following types of product:**

	1	2
Toiletries		
Deodorant	_____	_____
Shampoo	_____	_____
Moisturiser	_____	_____
Hair colourant	_____	_____
Laundry		
Washing powder/variant	_____	_____
Fabric conditioner	_____	_____
Groceries		
Tea	_____	_____
Coffee	_____	_____
Soup	_____	_____
Biscuits	_____	_____
Cereal	_____	_____
Condiments	_____	_____
Impulse snacks		
Chocolate bar	_____	_____
Ice cream	_____	_____
Sweets	_____	_____

Section 2: Recall

You will require the first set of prompt cards (blurred) for this section.

Please name the <u>brand</u> in each of the ads.

Ad 1 _____

Ad 2 _____

Ad 3 _____

Ad 4 _____

Ad 5 _____

Ad 6 _____

Ad 7 _____

Ad 8 _____

Ad 9 _____

Ad 10 _____

Ad 11 _____

Ad 12 _____

Ad 13 _____

Ad 14 _____

Ad 15 _____

Ad 16 _____

Ad 17 _____

Ad 18 _____

Ad 19 _____

Ad 20 _____

Ad 21 _____

Ad 22 _____

Ad 23 _____

Ad 24 _____

Ad 25 _____

Ad 26 _____

Ad 27 _____

Ad 28 _____

Ad 29 _____

Ad 30 _____

Ad 31 _____

Ad 32 _____

Section 3: Exposure

Please sort the cards into 3 piles (to the best of your knowledge):

1) Those ads you have been exposed to in the last 2 weeks, since the eye-tracking session
2) Those you have not
3) Those you are unsure about (Please avoid using this pile where possible)

You will now be shown your scanpaths for the selection of ads, and will be able to flick through these images at leisure to enable you to respond to the following questions:

1) Do you recognise these scanpaths as your own?

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2) Do you feel there is any kind of pattern associated with the areas you look at, and the order in which you look at them?

---

3) a If so, can you give an explanation for this behaviour?
b If not, can you give reasons for the different kinds of behaviour you display?

a

---

b

Thank-you. Your participation has been appreciated!